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Kwok Leung

Michael Harris Bond

Editors

Psychological Aspects of Social Axioms

Understanding Global Belief Systems

 Springer

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Kwok Leung • Michael Harris Bond
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Psychological Aspects of Social Axioms

Understanding Global Belief Systems

 Springer

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Foreword

Humans are surrounded by trillions of stimuli. Their eyes, for instance, can discriminate 7,500,000 colors. But, there is a severe limitation in the number of discriminably different stimuli that they can process at one time. George Miller argued that they can handle no more than seven, plus or minus two independent pieces of information at any given time. Thus, necessarily they must develop ways to simplify the task of processing the information that exists in their environment.

They do this in many ways. One way is to select the stimuli that are most important in their lives, what are often called values. Another way is to chunk stimuli by linking them to each other, so they form bundles of stimuli that can be processed as if they are one entity. Generalized expectancies of what is linked with what are beliefs, and these beliefs are structured into bundles (see Triandis, 1972).

The exceptionally important research reported in this volume focuses on these chunks of beliefs, which are called social axioms. The researchers found that in most cultures, ideas related to cynicism, complexity, reward, religion, and fate hang together. Thus, we can expect that in most cultures people who are high in cynicism will view most events through a cynic's lens; those who see a complex world will see events in more complex ways than those who view events more simply; those who emphasize beneficial outcomes will look to resource investment for explanations of how the world ticks; those who emphasize religiosity will see supernatural interventions, while those who do not emphasize it will look for more mundane explanations of events; those who are high in fate control will expect external controls, while those who are low on this attribute will not expect fate, luck, destiny, and the like to influence the events in their life.

Thus, when humans have such beliefs, they are enabled to simplify the processing of information from the environment. The beliefs that are organized around cynicism form one domain; the beliefs that deal with religion and spirituality form another; and so on. It is then easier to process the stimuli in the environment, since the stimuli that are not important as well as the stimuli that do not belong to axioms can be ignored, and the trillions of stimuli then become manageable.

The famous anthropologist Redfield defined culture as shared understandings made manifest in act and artifact. In short, cultures help people adapt to their environment by developing shared understandings of what is important and how things go together, and how to make things so that the people in the culture can adapt more

successfully to their ecological niches. When humans are socialized into a culture, they learn what stimuli are important and which stimuli go together, so they can be sampled while ignoring the complexity of their environment. Since the environment of each culture is distinct, there are distinct ways to value the entities in the environment, and to organize stimuli so that they form distinct axioms.

This work then provides ways to characterize cultures, and gives researchers a set of lenses for looking at cultures. When researchers know what people value and how they use the axioms, they can predict what people will do in their cultural niche—how they are likely to interact with each other, how they are likely to relate to outsiders, how they are going to react to their jobs, what emotions they are likely to feel in different circumstances, and how they are going to deal with conflict.

This book is an essential reading for cultural and cross-cultural psychologists, as well as students of culture and psychology. Even educated laymen may want it in their library to occasionally find useful clues about the way culture affects people and learn how to honor the Greek admonition to “know thyself.”

University of Illinois, USA

Harry C. Triandis

Reference

Triandis, H. C. (1972). *The analysis of subjective culture*. New York: Wiley.

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Editors

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Introduction*

Kwok Leung and Michael Harris Bond

Introduction

Leung and Bond (2008) argue that most people are purposeful in life, frequently grappling with two fundamental questions: what goals to pursue in life and how to pursue those goals. The “what” question has been extensively researched under the rubric of values, a long-vibrant enterprise which seeks to identify the general goals that guide people’s choices and actions (e.g., Rokeach, 1973). Given the prominence of research on values, it is no coincidence that values are also widely used in conceptualizing national culture and its influence on the performance of its citizens (e.g., Kluckhohn & Stodtbeck, 1961). With its breadth of coverage, the now-classic work of Hofstede (1980) on work-related values has leapfrogged other value frameworks as the dominant paradigm in cross-cultural theorizing.

Subsequent to Hofstede’s (1980) ground-breaking work, several major projects have continued to search for value-based dimensions of cultural variation. Using values derived from the Chinese cultural heritage, the Chinese Culture Connection (1987) identified a new dimension of national value variation, Confucian work dynamism, or short-term vs. long-term orientation (Hofstede, 1991). Schwartz (1994) has established a more psychologically grounded mapping of cultures with his seven culture-level value domains. Finally, Smith, Dugan, and Trompenaars (1996) identified three major value dimensions. It is instructive to note that Smith and Bond (1998, ch. 3) concluded that converging results have been obtained across these different value surveys.

The value-based frameworks reviewed above are pitched at the national level and are concerned with dimensions of national, often called “cultural,” variation. In

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contrast, Schwartz (1992) and Bond (1988) have provided value-based approaches to cultural differences that are psychological in nature, with constructs pitched at the individual or psychological level. At this level of analysis, cultural differences in individual values are argued to drive observed cultural differences in the choices and behaviors of individual actors, the target of psychological study (Brockner, 2003).

Social Axioms: General Beliefs About the Social World

While value frameworks are important, Leung et al. (2002) argue that the field needs novel constructs to maintain its vibrancy, momentum, and capacity to explain human actions. As a major first step in this direction, Leung et al. (2002) propose the construct of *social axioms*, or general social beliefs, as an alternative and possible complement to values in interpreting culture and explaining the responses of its members. Drawing from a functionalist perspective, Leung and Bond (2004) argue that these general beliefs represent people's cognitive map of their social world. In other words, social axioms provide answers to the "how" question discussed before in the sense that they can guide people in meeting and working with the difficulties and challenges of every day living.

Beliefs as a type of cognition vary along a continuum of specificity. Some beliefs are tied to a specific context, while others are very general, and may be conceptualized as "generalized expectancies" (Rotter, 1966). We use the term "social axioms" to label this type of general belief. The term "social" refers to the assumption that axioms are acquired through social experiences and concerned with living as inherently social beings. The term "axioms" refer to the assumption that these general beliefs represent basic premises that people endorse, without over-much scrutiny of their validity. As such, social axioms are now defined by Leung and Bond (2008) as follows:

Social axioms are generalized beliefs about people, social groups, social institutions, the physical environment, or the spiritual world as well as about categories of events and phenomena in the social world. These generalized beliefs are encoded in the form of an assertion about the relationship between two entities or concepts. (p. 198)

Social axioms always involve the relationship between two conceptual entities, and the relationship may be causal or correlational. In contrast, a value is concerned with the desirability and importance of a single conceptual entity. To illustrate the difference between a value and an axiom, take the value, "power," as an example. In assessing people's endorsement of power, respondents are typically asked to report on the importance or desirability they accord to this value. In contrast, in assessing a social axiom concerning power, such as "powerful people tend to exploit others," people are asked to evaluate the likelihood of the situation described by the statement, not to indicate if they desire either power or its consequence, exploitation of others.

Identifying Universal Dimensions of Social Axioms

To identify a comprehensive set of social axioms, Leung et al. (2002) turned to the psychological literature on beliefs, which is mostly Euro-American in origin, as well as informants and cultural sources from two less often studied cultures—Hong Kong and Venezuela. Based on the items collected through focused interviews and an examination of cultural products like the media and proverbial wisdom, a Social Axioms Survey with 182 items was constructed, and administered to college students and other adults in these two cultures.

Exploratory factor analysis suggested a five-factor structure that was applicable to both cultural groups. To confirm a greater universality for this structure, Leung et al. (2002) gathered data from three more cultural groups—the USA, Japan, and Germany. The same five-factor model was supported in these additional cultural groups by means of confirmatory factor analysis and factor analysis based on Procrustes rotation. We would have preferred a four- or six-factor model to distinguish our axioms work from that of the Big Five model of personality variation (e.g., McCrae, Costa, Pilar, Rolland, & Parker, 1998), but the data spoke clearly to us of a five-factor solution.

Encouraged by these initial results, Leung and Bond (2004) orchestrated a global project with the involvement of over 50 collaborators from 40 national/cultural groups. In order not to be constrained by the five-factor structure identified in the initial study, a meta-analytic procedure for factor analysis was followed (Becker, 1996), in which no a priori structure was assumed. The procedure involved forming an overall correlation matrix by pooling the correlation matrices from each cultural group. An exploratory factor analysis of the overall matrix pointed again to a five-factor structure as optimal, both for the 40 sets of student data as well as the 13 sets of adult data collected. This five-dimensional structure was highly similar to the structure identified before and is defined by 39 items. See Table 1 for the items defining the five-factor structure.

Factor one is labeled *social cynicism*, because the items suggest a negative view of human nature, a bias against some social groups, a mistrust of social institutions, and a belief that people tend to ignore ethical means in pursuing their goals. The second factor is labeled *social complexity*, because the items suggest a belief constellation holding that there are multiple ways to solve a problem, and that people's behavior, indeed a given person's behavior, may vary across situations. The third factor is labeled *reward for application*, because the items suggest a belief complex asserting that the investment of effort, knowledge, careful planning, and other resources will lead to positive outcomes. The fourth factor was initially labeled *spirituality* but subsequently renamed *religiosity*, because its constituent items endorse not only the existence of a supernatural being but also a number of beliefs about the beneficial social functions of religious institutions and practices. The fifth factor is labeled *fate control*, because the items suggest a belief complex claiming that life events are predetermined by various external forces, but that there are ways for people to influence the negative impact of these forces. It is noteworthy that this five-factor structure was subsequently confirmed by multilevel factor analysis, a more stringent analytic technique (Cheung, Leung, & Au, 2006).

Table 1 The Five Pan-cultural axiom dimensions (adapted from Leung & Bond, 2004)

Item	1 Social cynicism	2 Social complexity	3 Reward for application	4 Religiosity	5 Fate control
Powerful people tend to exploit others	60				
Power and status make people arrogant	59				
Kind-hearted people usually suffer losses	57				
Kind-hearted people are easily bullied	53				
People will stop working hard after they secure a comfortable life	45				
Old people are usually stubborn and biased	45				
The various social institutions are biased towards the rich	44				
It is rare to see a happy ending in real life	44				
To care about societal affairs only brings trouble for yourself	42				
People deeply in love are usually blind	39				
Young people are impulsive and unreliable	38				
People may have opposite behaviors on different occasions		60			
Human behavior changes with the social context		54			
One's behaviors may be contrary to his or her true feelings		54			
One has to deal with matters according to the specific circumstances		48			
Current losses are not necessarily bad for one's long-term future		40			
There is usually only one way to solve a problem		39			
Hard working people will achieve more in the end			59		
Adversity can be overcome by effort			56		
Every problem has a solution			50		
Knowledge is necessary for success			49		

(continued)

Table 1 (continued)

Item	1 Social cynicism	2 Social complexity	3 Reward for application	4 Religiosity	5 Fate control
One who does not know how to plan his or her future will eventually fail			45		
Competition brings about progress			42		
Failure is the beginning of success			40		
Caution helps avoid mistakes			36		
Belief in a religion helps one understand the meaning of life				75	
Religious faith contributes to good mental health				72	
There is a supreme being controlling the universe				62	
Belief in a religion makes people good citizens				61	
Religion makes people escape from reality				59	
Religious beliefs lead to unscientific thinking				54	
Religious people are more likely to maintain moral standards				51	
Individual characteristics, such as appearance and birthday, affect one's fate					60
There are many ways for people to predict what will happen in the future					60
There are certain ways to help us improve our luck and avoid unlucky things					52
Most disasters can be predicted					51
Fate determines one's successes and failures					48
Good luck follows if one survives a disaster					48

Social Axioms as Guidelines for Actions

Attitudinal constructs are widely believed to be instrumental to human functioning and survival (e.g., Katz, 1960; Kruglanski, 1989). Schwartz (1992) has also adopted this functionalist perspective and suggested that his value structure is universal because people in diverse cultural contexts need to cope with similar survival

problems, namely, "... needs of individuals as biological organisms, requisites of coordinated social interaction, and survival and welfare needs of groups" (p. 4).

Leung and Bond (2004) have followed a similar functionalist logic to interpret the universality of their axiom structure across diverse cultural contexts. Drawing upon evolutionary psychology, they argue that social axioms have important survival value in two broad domains: social interaction and problem-solving (Keller, 1997). In the social domain, Social Cynicism is related to the detection of deception and self- or group-serving intent, because it is concerned with the potential for exploitation, oppression, discrimination, and other negative processes endemic in social life. If one sees one's social world as generally malevolent and social exchanges as generally exploitative, one would need to be vigilant in protecting one's self-interest and well-being.

In the domain of problem-solving, Leung and Bond (2004) propose that three axiom dimensions are important for tackling problems of everything living. First, Fate Control represents a judgment of whether or not it is useful to actively deal with the problems encountered in life. People who endorse Fate Control tend to accept the existence of fateful forces to which they must then adapt, but they are also active in finding culturally endorsed and personally tested ways to improve their fate. Second, Reward for Application represents a general cost-benefit analysis of the coping responses to environmental demands. Striving is useful only if one believes that problems in living are amenable to effort and proaction. Third, Social Complexity is central to the assessment of the nature of the problems and their solutions. People who see the world as "complex" are likely to adopt a contingency approach to problem-solving and take into account the influence of the context; those with a simpler worldview function by making fewer differentiations and assuming a more straightforward operation of social factors. In a nutshell, these three axiom dimensions provide people with a sense of the nature of the problems that they encounter and the kind of responses that are likely to be effective in overcoming these problems.

Finally, religious institutions have been a part of all human civilizations across recorded history and mandate a set of beliefs and practices that are one way of providing a rationale for human existence. Religiosity represents one cognitive manifestation of the spiritual needs of humans by constituting a belief dimension claiming that there is a supreme being controlling human affairs and that religions promote social integration and personal development. Persons low in religiosity disagree with these conclusions about the spiritual and social world.

Overview of the Book

The primary motivation for us to develop the social axiom framework was to augment value frameworks in interpreting cross-cultural similarities and differences. However, we are aware of the fact that axioms also provide a general framework for interpreting a wide range of individual, interpersonal, and social behaviors. Despite the short history of the social axiom framework, it has caught the attention

of many researchers around the world. Indeed, we have been pleasantly surprised that axioms as a general framework for understanding social behavior have been enthusiastically leveraged by researchers to tackle a wide variety of issues.

To consolidate our current knowledge on social axioms, to showcase the utility of this emerging framework, and to stimulate future research, we have decided to put together an edited volume on social axioms. Our call for contributions from around the world was met with enthusiasm and enterprise by our many collaborators. We are pleased to include their insightful chapters from around our globe, applying the axiom constructs to diverse psychological problems of local and personal interest.

The book is divided into three sections: Section A contains several chapters that provide overviews of the social axiom research conducted thus far and explores some basic issues underlying the social axiom framework. Hui and Hui provide a summary of the empirical findings based on the social axiom framework and suggest directions for future research. Kwantes and Karam provide a review of the literature on axioms and organizational behavior, paying careful attention to levels of analysis and the appropriate application of the axiom constructs to individuals, groups, organizations, and nations. Van de Vijver, Valchev, and Suanet meticulously reanalyzes the axioms data collected from around the 41 nations/societies around the world. They conclude that some items are not equivalent across the many cultural groups included. In consequence of this exhaustive analysis, these authors make a number of recommendations for conducting large-scale cross-cultural projects in the future.

Singelis, Bhawuk, Gabrenya, Gelfand, Harwood, Her, Tanaka-Matsumi, and Vandello contrast the endorsement of axioms among different ethnic groups and regions in the United States. In a similar vein, Ismail contrasts the endorsement of axioms among different ethnic groups in Sabah, Malaysia. These two papers point to the usefulness of the axiom framework in elucidating group differences within a single national context.

Section B contains two chapters that explore the transmission of axioms across generations. Boehnke examines the transmission of axioms from parents to children in the former East Germany, a political unit that has gone through rapid social transformation because of the 1990 unification. Oceja explores the processes of axiom transmission across generations in Spain, as well as how axioms are related to compliance behavior.

Section C contains papers that attempt to establish the nomological network of axioms in various cultural settings. Dincă and Iliescu report on the relationships between axioms and personality traits as well as several behaviors in Romania. Bernardo examines the links between axioms and epistemological beliefs about learning among Filipino students. Safdar, Lewis, Greenglass, and Daneshpour contrast the relationships between axioms and coping across Christians and Muslims. Gari, Panagiotopoulou, and Mylonas investigate the relationships between indigenously analyzed axioms and locus of control in Greece. Guided by the theory of planned behavior, Liem, Hidayat, and Soemarno use axioms to predict three types of behavior among Indonesian university students. Boski, Biłás-Henne, and Więckowska investigate the role of social cynicism in both love and politics.

Comunian examines the relationships between axioms and locus of control and moral development in Italy. Ghosh explores the relationships between social axioms and horizontal and vertical individualism and collectivism in Indian university students. Finally, Chen examines the prediction of behavioral manifestations of individuation by axioms, self-construal, and values in a cross-cultural design.

The book ends with a concluding chapter by Bond, who positions the work-to-date on social axioms into the field of psychology and highlights the significance of the social axiom framework in our quest for a better understanding of cultural dynamics and human behavior.

We would like to take this opportunity to thank our contributors for their commitment, enthusiasm, and diligence in responding to our initial call for papers and then in responding with cheer and thoughtfulness to our detailed editorial suggestions. Their professionalism made our work together in producing this state-of-the-art review a delight. We are also grateful to Tony Marsella, the series editor, for his encouragement and support throughout this project. Finally, we thank Anna Tobias of Springer for her prompt and thorough help at various stages of the project. As our Persian friends might say, “We stand in your shadow.”

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Section A
Integrative Reviews and Basic Issues

The Mileage from Social Axioms: Learning from the Past and Looking Forward

Chin-Ming Hui and Natalie Heung-Hung Hui

Abstract Social axioms are proposed as fundamental psychological constructs tapping a person's beliefs about the social world and how it works, positioned centrally in the nomological network of broad psychological constructs and capable of predicting crucial psychological outcomes. This ambitious proposal has been put to empirical test across psychological domains around the world. In this chapter, we review all published empirical investigations on social axioms, demarcating them from other broad psychological constructs (e.g., personality and values) as well as examining if and how they could serve the four specific functions originally proposed, viz., "facilitate the attainment of important goals (*instrumental*), help people protect their self-worth (*ego-defensive*), serve as a manifestation of people's values (*value-expressive*), and help people understand the world (*knowledge*)" (Leung et al., 2002, p. 288). We envisage social axioms as fundamental and useful psychological constructs that will continue to gain importance in social sciences research in the decades to come, and we propose a number of fruitful future research directions to promote this line of research.

The Mileage from Social Axioms: Learning from the Past and Looking Forward

Since the model of social axioms was proposed (Leung & Bond, 2004; Leung et al., 2002), there has been a growing interest in their functions. The present chapter serves as a summary of what has been found so far about their functions, along with some proposed research directions for the future. This chapter consists of three parts: The first demarcates social axioms from other important and closely related psychological constructs, such as values and personality. The second part presents a literature review of the nomological networks and psychological implications of each social axiom. Given that previous research demonstrated that the five-factor

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model of social axioms is universal across multiple cultures (Cheung, Leung, & Au, 2006; Leung & Bond, 2004), we will use this five-factor model of social axioms for illustration. Future directions for the axioms research program are discussed in the final section.

Separating Social Axioms from Personality and Values

In proposing a new psychological construct, it is essential to explain how it is distinct from other established constructs, both at the theoretical and empirical levels. Distinguishing social axioms from other important psychological determinants of behaviors has been a major focus of the social axioms research program. Two of these constructs are personality and values.

The Distinction Between Personality and Social Axioms

A large body of social cognitive research has demonstrated that personality or individual dispositions influence information encoding (Robinson, Meier, & Vargas, 2005; Wilkowski, Robinson, & Meier, 2006), enhance selective attention (Derryberry & Reed, 1994; Noguchi, Gohm, & Dalsky, 2006), and increase information accessibility (Robinson, Ode, Moeller, & Goetz, 2007; Schimmack, Diener, & Oishi, 2002). Undoubtedly, these temperamental dispositions manifest themselves in distinguishable behaviors as well as attitudinal structures, the transformational process of which is known as characteristic adaptation (Costa & McCrae, 1994; McAdams & Pals, 2006). For instance, optimism is positively related to extraversion but negatively related to neuroticism (Williams, 1992). Extending upon this idea, one may argue that a person's worldview is largely determined by his or her personality. If this argument is valid, it will challenge the rationale for social axioms, as they are not distinct constructs that can add value to our psychological investigations.

Chen and her colleagues (Chen, Bond, & Cheung, 2006; Chen, Fok, Bond, & Matsumoto, 2006) have addressed this question and demonstrated that social axioms were only weakly predicted by both Western and Chinese indigenous personality measurements, namely the NEO-PI-R (Costa & McCrae, 1992), the Chinese Personality Assessment Inventory (Cheung, 2001), and the Sino-American Person Perception Scale (Yik & Bond, 1993): less than 20% of the variance of each axiom dimension could be explained by any of these personality instruments. The results provide convergent evidence to suggest that the conventional personality dimensions are not important determinants of social axioms as might have been presumed. For detailed correlations between the five social axioms and different measures of personality, see Table 1.

Table 1 Correlations between social axioms and personality

	n	SCyn	RA	SCom	FC	Rel
Chen, Fok et al. (2006)	117					
Five-factor model of personality						
Neuroticism		0.21		0.24		
Extraversion		-0.25	0.26			
Agreeableness		-0.42	0.23			
Openness to experience				0.24		
Sino-American Person Perception Scale						
Extraversion		-0.27				
Emotional stability				-0.19		
Helpfulness		-0.30			-0.28	
Horizontal and vertical individualism and collectivism						
Vertical individualism		0.38		0.27	0.20	
Vertical collectivism			0.20			
Chen, Bond et al. (2006)	359					
CPAI-2						
Novelty			0.18	0.14		
Diversity		-0.19	0.21	0.18		-0.11
Divergent thinking			0.11	0.17		
Leadership			0.17			
Logical vs. affective orientation			0.23			
Aesthetics		-0.16				
Extraversion vs. introversion			0.12			
Enterprise		-0.19	0.19			
Responsibility		0.17	0.20	0.15	-0.14	
Emotionality		0.20		0.21	0.15	
Inferiority vs. self-acceptance		0.23	-0.21		0.17	
Practical mindedness		-0.23	0.16	-0.15	-0.19	-0.11
Optimism vs. pessimism		-0.16	0.27			
Meticulousness		-0.13				
Face		0.26		0.19	0.18	0.13
Internal vs. external locus of control		-0.29	0.34	-0.16	-0.28	
Family orientation		-0.13	0.18	-0.15		
Defensiveness		0.31		0.13	0.17	
Graciousness vs. meanness		-0.38	0.21		-0.18	
Interpersonal tolerance		-0.23				
Veraciousness vs. slickness		-0.31	0.20	-0.15	-0.17	
Traditionalism vs. modernity				-0.12		
<i>Renqing</i>			0.23	0.12		
Social sensitivity		-0.17	0.23			
Discipline				-0.12		
Harmony		-0.23	0.18		-0.15	
Thrift vs. extravagance						-0.13

Note: All correlations are significant at 0.05 level.

Despite the small to moderate correlations between the five social axioms and personality, preliminary evidence seems to suggest that social axioms are not solely determined by personality (Costa & McCrae, 1992; Winter, 1996); contextual factors also matter. For instance, in a relatively highly stable context (e.g., in the university), the average test–retest reliability of social axioms within six months was as high as 0.74 (Leung, Hui, & Bond, 2007), which is comparable with those of personality measures within a similar time interval (for a meta-analysis, see Bazana and Stelmack, 2004). However, in a more dynamic context, like that of the working world, the stability of social cynicism within six months drops to 0.46 (Leung, 2006). The discrepancy in terms of stability of social axioms may reflect the dynamic nature of working conditions, which might vary substantially across and within individuals. One's beliefs about the world are responsive to changes in one's work environment. Illustrated by these two sets of longitudinal data, social axioms are speculated to be malleable constructs which, unlike personality, are subject to change as the social environment changes over time.

Putting these findings together, we argue that social axioms are neither personality by their essence nor simple manifestations of personality, given that they are not highly correlated with typical personality constructs, and that they are social context-sensitive in nature and are rendered malleable by changes in the situations people confront.

The Distinction Between Values and Social Axioms

In the original theoretical proposal, one function of social axioms is to express values, such that social axioms are manifestations of the endorser's values (Leung & Bond, 2004). Accordingly, social axioms play a role in facilitating value-congruent behaviors. For example, reward for application has been shown to be a correlate of the self-transcendent value dimension as well as related to the preference of other-concerning tactics in conflict management/resolution strategies (Bond, Leung, Au, Tong, & Chemonges-Nielson, 2004). Under the original framework, we might think that social axioms are shaped by values. However, axioms may also assume an active role to shape values, resulting in a reciprocal, dynamic relationship between the two (see Leung & Zhou, in press, for a thorough discussion). The logic of this conceptualization is based upon the notion that the desirability or instrumentality of an object or a goal may depend upon the network of beliefs surrounding it (Wyer, 1974).

Despite the conceptual connection between values and social axioms, their correlations are only of moderate sizes as presented in Table 2, with data drawn from Bond et al. (2004) and Leung et al. (2007). Values are largely independent of social axioms, despite the existence of some significant correlations between the two.

The distinction of values and social axioms resembles the conceptual differences of these constructs discussed in expectancy–value theory. In this classic framework (e.g., Feather, 1992; Vroom, 1964), beliefs and values are considered as two

Table 2 The correlations between social axioms and values

	n	SCyn	RA	SCom	FC	Rel
Leung, Au et al. (2007)	912					
Self-direction		-0.09		0.11	-0.07	-0.15
Conformity		0.08	0.07			0.10
Power		0.08	0.07	-0.08		-0.10
Hedonism			-0.05			-0.14
Tradition			-0.13	-0.19	0.07	0.33
Achievement			0.15			-0.11
Benevolence				0.09		0.14
Stimulation						-0.10
Bond et al. (2004)	180					
Openness to change				0.18		
Conservation			0.30		0.18	0.34
Self-enhancement		0.35				-0.21
Self-transcendence			0.32	0.23		0.23

Note: All correlations are significant at 0.05 level.

important constructs that jointly shape attitudes and behaviors. Values define the outcomes desired by an individual, while beliefs define the likelihood with which a target object associates with a particular outcome. The empirical evidence accrued supports the conclusion that beliefs and values are largely independent of each other, an outcome that parallels what has been found in the social axioms research. In particular, two studies (Bond et al., 2004; Leung, Au et al., 2007) showed that social axioms are weakly correlated with basic values measured with Schwartz's value survey (1992). Moreover, after controlling for values, social axioms can still independently predict psychological outcomes, such as political attitudes (Keung & Bond, 2002), style of conflict resolution, vocational interests, and coping strategies (Bond et al., 2004).

This discovery has important implications for cross-cultural research. Values are the primary explanatory variables utilized to account for cultural differences in previous research (e.g., Hofstede, 2001; Schwartz, 1992). Only until recently researchers have attempted to use different perspectives for unpacking cultural differences (e.g., Chiu, Dweck, Tong, & Fu, 1997; Goodwin & Findlay, 1997; Leung, Bond, & Schwartz, 1995). The empirical differentiation between social axioms and values adds to this new endeavor and specially gives promise for the utility of general beliefs in cross-cultural investigation.

Psychological Correlates of the Five Axiom Dimensions

Despite the recency of empirical research on social axioms, their psychological functions have been broadly investigated. Up until the writing of this chapter, there were already 15 publications documenting such investigations. In this section,

we will focus on reviewing the within-cultural correlations between social axioms and psychological correlates. For a general discussion of the nation-level correlations between social axioms and other constructs, consult Leung and Bond (2004).

Establishing the Four Functions of Social Axioms

According to Leung et al. (2002), social axioms serve at least four functions: (a) *value-expressiveness*: presenting one's values, (b) *knowledge*: helping people understand the world, (c) *instrumentality*: facilitating attainment of important goals, and (d) *ego-defensiveness*: protecting self-worth. As we have discussed the connection between social axioms and values, we will only review the latter three functions based upon all the published work on social axioms.

Social axioms serve as general knowledge about the world, such that they function as governing principles for beliefs in different specific domains. In line with this argument, social axioms predict attitudinal variables in many areas of psychological investigation, such as political attitudes (Keung & Bond, 2002) paranormal beliefs (Singelis, Hubbard, Her, & An, 2003), vocational interests (Bond et al., 2004), and attitudes towards help-seeking (Kuo, Kwantes, Towson, & Nanson, 2006). Importantly, social axioms do have survival utility. One recent study done by Kurman and Ronen-Eilon (2004) suggested that immigrants adapt better if they have accurate knowledge about social axioms characterizing their host cultures. Thus, social axioms serve as a set of important psychological tools helping individuals to comprehend, relate to, and even maneuver in the social world.

In addition, social axioms serve as guiding principles steering progress towards the attainment of important goals in life. As discussed earlier, a belief reflects how a means is related to a specific end and the subjective judgment of the likelihood with which a particular means leads to a particular end in a given situation (Vroom, 1964). Accordingly, different social axioms might pair up a given end with different prescribed means. For example, reward for application defines the contingency between effort invested and reward received, whereas social cynicism defines the contingency between one's social power and probable reward. More specifically, in a conflict situation, reward for application predicts preference for collaborative and compromising strategies to reach a better decision, while social cynicism predicts a competitive orientation, which involves an exercise of power or defense against its probable use by a collaborator (Bond et al., 2004; Chen & Zhang, 2004). Similarly, reward for application predicts preference for using persuasive influence tactics, while social cynicism predicts assertive and relationship-based tactics, which are again exercises in power and status advantage (Fu et al., 2004). Thus, social axioms govern choices, their generation and selection, leading to situationally based goal attainment as selected by the "belief-holder."

Finally, social axioms have important implications for our self-worth and subjective well-being. Self-worth and well-being are the universal goals pursued by human kind throughout history (e.g., Freud, 1920/1952; Greenberg, Pyszczynski, &

Solomon, 1986), although individuals differ in their definitions and choice of strategies to achieve these goals. As social axioms define instrumentality of various means to reach a given goal, they should predict how individuals cope with the challenges of life and achieve self-worth and well-being. For example, reward for application predicts the use of a problem-solving coping style, while fate control predicts passive forms of coping, namely wishful thinking and distancing (Bond et al., 2004). Although self-worth and well-being are universal goals, it is important to note that individual differences exist in assessing the effectiveness of different strategies. For example, individuals high in social cynicism exhibited more negative attitudes towards seeking help through professional services (Kuo et al., 2006). This result may serve as one of the factors accounting for the robust finding that social cynicism is consistently linked to a more gloomy psychological condition, such as low life dissatisfaction (Chen, Cheung, Bond, & Leung, 2006; Lai, Bond, & Hui, 2007), psychological distress (Kuo et al., 2006), and death ideation (Hui, Bond, & Ng, 2007).

In sum, the empirical evidence accumulated so far points to one important characteristic of social axioms, the specific functionality as proposed earlier by Leung et al. (2002). In the following, we present the literature review conducted and summarize the findings by each of the axiom dimensions.

Literature Review: Psychological Correlates of Social Axioms

We conducted a literature review of the 15 published empirical articles on social axioms aiming at (1) to investigate the nomological networks of each of the five social axioms, (2) to extract overarching themes of the psychological functions informed by these empirical findings, and (3) to identify potential research gaps and to shed light on future research directions for the social axioms research program.

In this section, we will discuss the psychological correlates of the five social axioms one by one. The complete list of significant correlations between different psychological constructs and each of the social axioms found in the existing literature is presented in Table 3.

Social Cynicism Social cynicism is a belief syndrome that portrays a negative view of human kind, especially focusing on the corrosiveness of power, the lack of trust towards authority and social institutions, and the low likelihood of others using ethical means for attaining goals. With this negative view of the social world, individuals might be predisposed towards greater self-absorption and lower concern over humanity (Leung & Bond, 2004). As they proposed, social cynicism heightens one's sensitivity to potential threats or deception in social context. Despite the potential protective functions served by this heightened sense, it does not come without some cost. Empirical findings yielded do seem to paint a gloomy picture for people high in social cynicism across life domains, such as personal happiness and psychological well-being, thinking and judgment abilities, coping, interpersonal communication, and relationship building.

Table 3 Psychological correlates of social axioms

	n	SCyn	RA	SCom	FC	Rel
Beliefs and attitudes						
Keung and Bond (2002)	204					
Political Attitudes						
Egalitarianism			0.22	0.16		
Freedom from regulation		0.20	-0.22		0.23	-0.53
Bond et al. (2004)	180					
Vocational interest						
Social		-0.15	0.23			0.22
Conventional						-0.15
Singelis, Hubbard et al. (2003)	272					
External locus of control		0.34			0.18	
Social desirability		-0.21	0.24		-0.15	
Interpersonal trust		-0.43				
Cognitive flexibility		-0.25	0.16			
Paranormal beliefs						
Spiritual beliefs					0.35	
Supernatural beliefs		0.19			0.35	
Beliefs in precognition					0.36	
Traditional beliefs			0.16		-0.26	0.64
Bilas-Henne (2006) ^a						
Love styles						
Eros					0.24	
Pragma		0.29			0.16	0.21
Mania		0.19			0.31	0.29
Behaviors and choices						
Chen and Zhang (2004) ^b	120					
Conflict resolution style						
Competition		0.20	0.23			
Accommodation		0.21				
Compromise			0.37			
Collaboration			0.33	0.22		
Avoidance		0.24				
Bond et al. (2004)	180					
Conflict resolution style						
Competition		0.22				
Accommodation			0.33			0.31
Compromise			0.15	0.18		
Collaboration			0.17	0.22		
Fu et al. (2004)	291					
Influence tactics						
Relationship based		0.23	0.06		0.19	0.15
Persuasive		-0.10	0.25		-0.09	0.06
Assertive		0.20			0.17	0.07

(continued)

Table 3 (continued)

	n	SCyn	RA	SCom	FC	Rel
Coping and well-being						
Bond et al. (2004)	180					
Way of coping						
Wishful thinking		0.23			0.22	
Problem-solving			0.15	0.22		
Distancing					0.15	
Chen et al. (2005)	359					
Ambivalence over emotional expression						
Emotional rumination		0.27	-0.10	0.17	0.18	
Emotional suppression			0.11	0.26		
Safdar et al. (2006)						
Coping and adjustment	149					
Coping			0.44	0.19		0.25
Satisfaction		0.18	0.35	0.43		0.21
Harmony		0.31	0.74	0.58	0.25	0.55
Self-esteem			0.34	0.19	0.20	0.29
Mastery			0.42	0.36		0.27
Kuo et al. (2006)	400					
Perceived stress		0.18			0.12	
Help seeking attitudes		-0.22				
Neto (2006)	117					
Ageism total		0.49		-0.20		
Mastery			0.18	0.25		
Self-esteem		-0.25		0.18		
Loneliness		0.27				
Social desirability						
Chen, Cheung et al. (2006)	359					
Life satisfaction		-0.15	0.14	-0.14		
Lai et al. (2007)	78					
Mean life satisfaction across three time-points		-0.39		-0.23		
Hui et al. (2007)	133					
General death anxiety		0.35			0.44	-0.22
Death ideation		-0.25	-0.20		-0.35	

Note: All correlations are significant at 0.05 level.

^aIn this study, the author did not report the correlations with reward for application and social complexity as the reliability indices of these subscales were too low.

^bIn this study, the religiosity and fate control were combined into one single score.

Social cynicism is essentially related to the disliking of the self and other social beings, as shown in its negative relations with lower self-esteem (Neto, 2006), lower interpersonal trust (Singelis et al., 2003), and heightened social anxiety (Lo, 2006). If there is a relation between the disliking of the self and others, the underlying mechanism is sure to be an intriguing one, whether it is the negative view of the self being projected to others in the social world, or the negative view of the social world being internalized into the self, or both springing from the sense

of helplessness in the face of a corrupting world. The nature of the relationship deserves more scientific inquiries. Still, it is worth noting that both self-view and social cynicism tend to have unique contributions to psychological outcomes, such as suicidal ideation (Chen, Wu, & Bond, 2007) and life satisfaction (Chen, Cheung et al., 2006).

With a mistrust of other people, it is not surprising to find that social cynicism is negatively related to help-seeking attitude (Singelis et al., 2003). Instead of garnering external professional help to cope with challenges in daily life, social cynics might resort to maladaptive coping, such as wishful thinking (Bond et al., 2004) and emotional rumination (Chen, Cheung, Bond, & Leung, 2005). The lack of trust in others (Singelis et al., 2003) and the choice of competition, avoidance, and accommodation rather than collaboration and compromise during interpersonal conflicts (Bond et al., 2004; Chen & Zhang, 2004) are two sides of the same coin, which further diminish the social capital of social cynics. The deliberate choice to stay away from careers which involve more frequent social interactions (Bond et al., 2004) might further reduce opportunities to expose oneself to positive social experiences that may contradict the social cynics' mindset and thus "correct" their negative bias against the social world. It seems hard for social cynics to avoid the self-fulfilling prophecy it sets in motion and which leads to a negative self-view (Lai et al., 2007).

Given that social cynics tend to dislike themselves and other individuals, and that they do not seek help from others, their well-being may be compromised. Indeed, multiple well-being indicators converge to suggest that social cynics walk in a path of inner darkness. Not only does social cynicism relate to greater loneliness (Neto, 2006) and perceived stress (Kuo et al., 2006), it also predicts lower level of life satisfaction concurrently (Chen et al., 2006) and prospectively (Lai et al., 2007). Mortality-related issues seem to trigger greater threat or at least negativity among social cynics as well, reflected by their greater endorsement of ageism (Neto, 2006) and exhibition of death anxiety (Hui et al., 2007). On top of all these findings, their stronger beliefs in external locus of control and supernatural power (Singelis et al., 2003) might further instill a sense of helplessness and psychological vulnerability among social cynics, both reflecting fragility and putting their mental health more at risk than otherwise.

This discussion of the many dark sides of social cynicism leaves us wondering what are the possible adaptive functions associated with a negative view of the social world and whether there are ways out for social cynics to live a happy and healthy life? Perhaps, this answer may depend upon the context. Suppose a social cynic lives in a nation-at-war. The belief-facilitated sensitivity to social deception and avoidance of close bonding may safeguard the individual from being exploited or even killed. In this case, social cynicism may have a survival value. On the other hand, social cynicism may not be that useful in a lawful, liberal, and fair society, where one's personal welfare has already been well protected by the social system. In this case, the costs (e.g., refraining individuals from establishing authentic and meaningful relationships) would outweigh the benefits (e.g., safety) creating a maladaptive response. Perhaps for this reason, Bond et al. (2004) report that societal cynicism, a nation-level representation of social cynicism, is correlated with a

host of inimical societal conditions, like lower wealth, human rights observance, and homicide.

Reward for Application Reward for application is a belief about human agency. Unlike self-efficacy belief (Bandura, 1997), reward for application does not limit the target object to the self, but refers to what is true for all persons. Empirical evidence suggests that there are distinctive contributions of self-efficacy and reward for application to subjective well-being. Specifically, while self-efficacy beliefs tend to relate to well-being at any time (e.g., Pinquart, Sibereisen, & Juang, 2004; Vecchio, Gerbino, Pastorelli, Del-Bove, & Caprara, 2007), reward for application seems to relate to well-being only in difficult or challenging situations. For example, in two studies (Chen, Bond et al., 2006; Lai et al., 2007), reward for application was only weakly related to life satisfaction, especially in comparison to the contribution of social cynicism. However, for studies on coping and adjustment, reward for application predicts active coping (Bond et al., 2004) and better coping and adjustment in intercultural communications (Safdar, Lewis, & Daneshpour, 2006). These results suggest that reward for application is not just a synonym of self-efficacy, but is also useful in predicting successful adjustments and transitions in life.

An interesting finding is that reward for application is related to prosocial and prorelationship values and behaviors. Specifically, reward for application is moderately related to conservative and self-transcendent values (Bond et al., 2004), egalitarian political attitudes (Keung & Bond, 2002), vocational interests in professions serving others, such as the social type (Bond et al., 2004), preference for compromising, accommodating, and collaborative behaviors in conflict resolution (Bond et al., 2004; Chen & Zhang, 2004), and preference for “softer” forms of influence strategies involving the use of established relationships and noncoercive persuasion (Fu et al., 2004). The specific findings all point to one underlying theme of reward for application—the belief in the equity principal. That is, people high in reward for application tend to also respect and acknowledge other’s interests and fairly divide resources between them.

Feather’s expectancy–value model (1982) provides another plausible conceptualization of the pattern found. Prosocial behaviors, like other behaviors, can be predicted by the multiplicative function of valuation of the goal and the goal attainability belief. While valuation of social connection has been considered as one basic human need (Baumeister & Leary, 1995; Ryan & Deci, 2000), the goal attainability belief may depend upon one’s belief network. The belief in reward for application may increase one’s belief about his or her agentic control over interpersonal rewards, because the agent trusts that others in his or her social network will be responsive and fair. As a result, the endorsers are more active in engaging in prosocial and prorelationship behaviors because of the foreseeable rewards, i.e., the satisfaction of their interpersonal needs and the fulfillment of their expectation that justice would be upheld by all parties.

Social Complexity Social complexity is defined as a belief that there is no single rule governing social occasions, so that individuals need to adjust their behaviors to varying circumstances. In general, social complexity serves as an active facilitator

of problem solving (Bond et al., 2004), and it may orient problem solving in a prosocial manner as indicated by its links to self-transcendent values (Bond et al., 2004), egalitarian political attitudes (Keung & Bond, 2002), and a collaborative conflict resolution style (Bond et al., 2004). It is important to note that social complexity is not related to social desirability (Singelis et al., 2003), suggesting that belief in social complexity does not lead to social compliance as one might speculate. Instead, social complexity reflects a more differentiated view of problematic situations, possibly leading towards more thorough assessment of a situation to yield moderate and balanced solutions.

Given that social complexity fosters problem solving, does social complexity promote well-being? The findings are mixed and inconclusive. In one study, Safdar et al. (2006) showed that social complexity facilitates coping and adjustment in intercultural contact. On the other hand, social complexity is found to be negatively correlated with life satisfaction in both cross-sectional and longitudinal studies (Chen, Bond et al., 2006; Lai et al., 2007). One plausible explanation to reconcile these apparently contradicting findings might be the moderating effect of the salience of the demand for accommodation in a situation. When the situation, like immigration (as studied in Safdar et al., 2006), calls for accommodation, social complexity may facilitate adjustment. In a situation where need for accommodation is not salient, adopting a belief that the social world is multifaceted and multi-determined, one would inevitably feel overwhelmed and burdened by the need to consider so much social information to get by in life. Thus, subjective well-being might suffer.

Fate Control Fate control is the belief that there are impersonal, external forces that determine life events (e.g., fate, destiny, luck, etc.) *and also* the possibility for individuals to exert influence over or shape their outcomes by engaging in various culture-specific practices (Leung & Bond, 2004). Due to its conceptual complexity, its psychological correlates might not seem to be compatible with each other at first glance.

First of all, the small but positive correlation between fate control and external locus of control found in the study conducted by Singelis et al. (2003) points to a small overlap of the two measures regarding the role of external forces in bringing about life events, but at the same time provides empirical support for the distinction between the two constructs. Belief in fate control is different from a personal belief that the holder of that belief is controlled more by external than internal forces. Rotter's I-E scale forces a respondent to choose between an internal or an external explanation for his or her behavior; the axioms describe the world, not the self, and belief in reward for application has repeatedly been shown to be orthogonal, i.e., independent, of belief in fate control

Moreover, the concept of fate control might be easily confused with belief of religiosity as both refer to powerful external forces at work. Religiosity, however, involves more than a belief in "a Supreme Being"; there are many more associated beliefs that refer to the positive, prosocial consequences of adherence to a religion of any kind. For example, in an American study (Singelis et al., 2003), we see that fate control is only related to nontraditional religious beliefs, such as beliefs in

spirits, supernatural forces, and precognition, whereas religiosity is only related to traditional beliefs in a monotheistic God. Though the argument may be confounded by the sample characteristics (i.e., Americans are mostly protestant), it may also illustrate the distinction between fate control from other social axioms at the conceptual level.

In contrast to religiosity, fate control does not correlate positively with the various well-being indicators studied, but presents mixed findings. For example, fate control is related with perceived stress (Kuo et al., 2006), emotional rumination (Chen et al., 2005), and general death anxiety (Hui et al., 2007), creating a negative profile for subjective well-being. In addition, fate control is not related to active coping, but to wishing thinking and distancing in the face of challenging life events (Bond et al., 2004).

This finding leads us to speculate whether a belief in fate control has been used as an excuse not to confront head-on the larger difficulties in life. However, fate control also consists of a belief that fate is malleable. Here comes an interesting conceptual question of the interactive effect of different social axioms: Are people who are high on fate control as well as reward for application the ones who would choose to confront their fate in an active manner, as they are more likely to believe in the power of their own effort to change their fate? Or, if fate control exerts such a strong impact on individuals that no matter they are high in reward for application or not, people high in fate control would still attribute human problems as determined by external agents and beyond the reach of human agency?

On the other hand, fate control was found to be related to interpersonal harmony and self-esteem, two indicators of well-being (Safdar et al., 2006). These different findings present us with a challenge to understand how the seemingly opposing forces exerted by the two themes of fate control work with or against each other to bring about mixed findings across studies. It may be that fate control is particularly responsive to cultural influence in both the importance and direction of its impact on outcomes. Cross-cultural studies will be needed to address this speculation.

More importantly, this puzzle leads us to another important research question: If fate control really captures the idea of individuals exercising control to influence the predetermined trajectories of fate, what are the personal strengths and situational affordances that would allow the shift from being a victim of fate to a coauthor of fate? Is it the kind of problem shaped by fate that distinguishes those high and low in fate control, perhaps?

Religiosity Religiosity refers to the belief in the existence of a higher power or Supreme Being and also the beneficial functions of religious beliefs and religious institutions for human social life (Leung & Bond, 2004). If we consider social cynicism as the “dark force,” associated with a wide array of negative psychological outcomes, religiosity definitely strikes us as the “good force,” along with reward for application, which promotes diverse positive psychological outcomes.

First of all, the relations between religiosity and various paranormal beliefs provide evidence to support their convergent and discriminant validities. Religiosity is related only to traditional religious beliefs (e.g., beliefs in God, in Allah, Atman, etc.), but not with those concerns over superstition, reincarnation, and precognition

(e.g., belief in fortune-telling ability, as found in Singelis et al., 2003). It is also interesting to note that religiosity links negatively to one type of political attitude, namely freedom from regulation (Keung & Bond, 2002). All religious practices and membership in religious institutions involve some degree of self-restraint and rule-adherence; so it is understandable that those higher in religiosity would endorse a more regulated polity. Moreover, religiosity seems to be associated with a lower level of anxieties, whether it is the anxiety over death (Hui et al., 2007) or social anxiety as implied by the inclination towards choosing a social-oriented vocation (Bond et al., 2004).

In terms of coping and adjustment, studies with immigrants on their adaptation repeatedly show religiosity to be a protective factor associating with positive psychological outcomes. In a study conducted in Canada, Iranian immigrants who endorsed religiosity fared better across various well-being indicators, such as active coping, sense of mastery, self-esteem, life satisfaction, and interpersonal harmony (Safdar et al., 2006).

The findings mentioned above should not come as surprises, since the positive relation between personal religiosity and mental health has been repeatedly shown in previous meta-analyses (e.g., Bergin, 1983, 1991; Hackney & Sanders, 2003; Payne, Bergin, Bielema, & Jenkins, 1991). However, the use of the religiosity scale from the SAS taps not only religious affiliation and practices (behavioral aspects) but also the belief (the cognitive component) that religions are socially beneficial, a conceptually different construct as compared to those studied in most previous research on being religious. One may argue that the belief in religiosity is the hallmark of religious internalization (Ryan, Rigby, & King, 1993), capturing the true essence of what a religion means to an individual.

In the future, research investigating independent contributions of the cognitive and behavioral components of religiosity would help to advance our knowledge on the specific pathways linking religiosity and well-being.

Future Directions

This literature review has identified three important gaps in the current research on social axioms and points towards four important agendas for future research. Firstly, it is necessary to consider the causal relation, if any, between social axioms and their different psychological correlates. In our review, most research conducted involves correlational studies. Only three studies (Lai et al., 2007; Leung, 2006; Leung, Hui, & Bond, 2007) have so far employed a longitudinal design. Thus, the causal relationships between social axioms and various psychological processes remain inconclusive, albeit suggestive. We encourage colleagues to use longitudinal designs to better test the causal directionality of social axioms and other psychological constructs. In addition, as previously mentioned, the levels of some social axioms endorsed are not fixed but somewhat

malleable, subject to situational cues and influences. Accordingly, this suggests the possibility of experimental manipulation of the endorsements of social axioms, similar to other belief constructs, such as lay beliefs about intelligence and personality (Dweck, Chiu, & Hong, 1995). If such experimental paradigms prove to be feasible, it opens up important and fruitful opportunities to test the causal relationships among social axioms and other psychological constructs of interest.

Our second suggestion concerns the person–situation interaction as discussed by Mischel and Shoda (1995, 1998). Specifically, we suggest that social axioms may moderate the impact of situational cues on various psychological outcomes. Social axioms are regarded as epistemic beliefs; they may color inferences and interpretations drawn from situational cues. Previous research has also shown that beliefs can shape social inferences. For example, individuals who believe that a relationship's outcome is destined tend to heavily emphasize the goodness of initial interaction experiences more than nonbelievers, such that their assessment of the partner's initial personality and initial relationship satisfaction is a stronger predictor of their relationship commitment (Knee, 1998; Knee, Nanayakkara, Vietor, Neighbors, & Patrick, 2001). Similarly, it is presumed that different levels of social axioms may impose different subjective meanings upon the same situation, and hence create different realities leading to diverse psychological outcomes. For example, fate control induces individuals to make more external attributions for negative events (Leung et al., 2007) and hence may encourage an individual to engage in wishful thinking to overcome these negative experiences (Bond et al., 2004). Future studies may examine the interaction effects between social axioms and situations on psychological outcomes.

Thirdly, instead of considering each of the five social axioms separately for their impact on psychological outcomes, we can also investigate an individual's profile of social axioms. For example, an individual who believes in fate control *and* reward for application might be more likely in his or her attempt to shape the impact of fate than one who does not endorse the belief of reward for application. So, it is possible that not only does the level of each individual social axiom matter, but also their interactions with each other within the individual.

Finally, as discussed by Leung et al. (2002), the major contribution of social axioms research is to expand the toolbox for explaining cross-cultural differences. In past decades, cross-cultural differences have primarily been explained by values; still, values cannot explain a great deal of variance in many social phenomena. Social axioms are promising candidates for explaining variance in cross-cultural differences that are not readily accounted for by values.

Currently, most of the social axioms research thus far has involved one single cultural group. This feature of the available database makes integrating results across these various cultures an “iffy” enterprise, because culture may influence the way axioms operate to influence psychological outcomes (see, e.g., Fu et al., 2004). Future studies are needed to test the functioning of social axioms in cross-cultural comparisons to assess their roles in differing cultural contexts.

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Social Axioms and Organizational Behavior

Catherine T. Kwantes and Charlotte M. Karam

Abstract This chapter examines the use of social axioms in predicting work attitudes and behaviors. As organizational research can be conducted at several levels of analysis, this chapter reviews the research conducted in the areas of organizational citizenship behavior (OCB), normative commitment, and conflict management and resolution, paying careful attention to the possible levels of analysis within each area. The effect of social axioms on organizational citizenship is examined at the individual level of theory and analysis using social axioms as an individual difference variable, at the group level of theory and analysis, where it is called collective citizenship, or across these levels. Likewise, research related to normative commitment and organizational conflict at the individual level of analysis is presented, along with research at both higher levels of analysis and cross-level analysis. Suggestions for future research at the group level of theory and analysis as well as suggestions for cross-level research are presented and discussed.

Levels of Influence

Organizational behavior occurs within two critical cultural contexts—an organizational culture and a social culture. Each level of culture reflects a different level of focus, and therefore a different level of theory and analysis, that can be understood as being nested one within the other. At the broadest level, social culture-related variables may be viewed as representing societal norms that relate to values, beliefs, and behavior. Similarly, nested within social cultures, organizational cultures may be viewed as representing organizational norms that relate to values, beliefs, and behaviors. These organizational culture norms may or may not be congruent with the social culture norms within which the organization operates, and while these variables may describe the society or organization in general, they do not necessarily reflect any particular individual employee's values, beliefs, or behaviors. Yet, both the social and the organizational culture have an impact on individual behavior, as it occurs nested within both.

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Multilevel issues are often inherent in research that examines the constructs of culture, organizational behavior, or both together. Researchers and theorists have conceptualized culture and/or culture-related variables at the individual, family, school, organizational, and societal levels. This differentiation is apparent in explorations of organizational behavior, for example: employee behavior (e.g., OCBs—Organ, 1988; organizational commitment—Allen & Meyer, 1990), group behavior (e.g., collective citizenship behavior—Karam & Kwantes, 2006; collective efficacy—Watson, Chemers, & Preiser, 2001), and organizational-level behavioral phenomena (e.g., productivity and/or effectiveness of the organization as a whole—Ostroff & Bowen, 2000).

The identification of multiple levels within which organizational behavior occurs has created the possibility of not only empirical research centered at single levels of theory, measurement, and analysis, but also the possibility of cross-level and multilevel work. Individual-level research has often focused on the antecedents and consequences of employee behavior; unit-level research on the unit-level antecedents and consequences of collective organizational behavior constructs; and cross-level research on the top-down influence of unit-level variables on individual-level variables, as well as relationships between individual-level variables. Each of these forms of research requires researchers to adequately identify appropriate levels of theory, measurement, and analysis when examining these constructs and the relationships between them.

Social Axioms

The concept of social axioms has been defined as general beliefs about the social world and is in the form of an assertion that two entities are related (Leung et al., 2002). As such, this construct has been used to represent a set of generalized beliefs that can serve as a basis for differentiating individuals both within cultures and across cultures, as well as differentiating groups of individuals between groups, such as cultures. Each of these approaches reflects a different focus, and therefore presupposes a different level of theory, measurement, and analysis.

Social Axioms: Individual Level of Focus

The examination of individual differences was the main impetus for Leung et al.'s (2002) two-study research in which they identified a five-factor model of social axioms including the generalized beliefs of cynicism, social complexity, reward for application, spirituality (subsequently renamed religiosity), and fate control initially with 580 participants from Hong Kong and Venezuela, and later with 424 participants from Germany, United States, and Japan. In these two studies the focal unit was the individual, such that an individual's personally held generalized beliefs

formed the theoretical content of examination and the individual was the unit of analysis. Fu, Kennedy, Tata, Yukl, Bond, and Peng (2004) conducted a cross-level examination of individual social axioms within an organizational setting focussing on the relationship between societal-level cultural values, individual-level social axioms, and the individually perceived effectiveness of different influence strategies. The results of this study suggest that societal-level cultural values can moderate the strength of the relationship between social beliefs and influence strategies.

Social Axioms: Higher Level of Focus

There are a number of studies examining social axioms at a higher level (e.g., Bond et al., 2004; Leung, Au, Huang, Kurman, Niit, & Niit, 2007). Bond et al. (2004) conducted a higher-level examination of the social axiom construct. In this study, 7,672 participants from 41 cultural groups rated 60 social axiom items on the same 5-point Likert-type scale described above. The authors then calculated the item means for each country by averaging across participants resulting in 41 cases, each with 60 means. These means were then used to perform a principal components analysis (PCA) with varimax rotation. The results of the PCA indicated that two social axioms emerged at the national level: Dynamic Externality, reflecting proactivity in dealing with externally imposed constraints, and Societal Cynicism, reflecting an expectation that interactions with others and the environment are not likely to bring desired results. These analyses provided the means to begin a higher-level, social culture-level exploration of social axioms.

Leung and Bond (2007) highlight the fact that, even if similar constructs emerge at both levels, the meaning of constructs may not be identical at individual and higher-unit levels. They point out that, in their work, different bases were used to interpret the factor structures that emerged from data analysis of the SAS at the individual and at the group levels. The functionalist perspective, focusing on how culture allows individuals to respond to environmental and social factors in the most adaptive manner, provided the perspective for understanding the factor structure of the SAS at the individual level, while a group-membership approach provided the perspective for interpreting the cultural-level factor structure, based on the argument that individuals in a given culture are likely to share similar sets of problems that must be dealt with.

In line with Leung and Bond's call for future research in examining social axioms across different levels of analysis, and in line with attempting to ensure congruence between the levels of theory, measurement, and analysis (House, Rousseau, & Thomas-Hunt, 1995; Kozlowski & Klein, 2000; Rousseau, 1985), studies can be conducted where the belief statements specifically reference the societal-culture level. One possible means of doing this is to ensure that the focal unit within each belief statement is the culture as-a-whole, meaning that participants are directly asked for their perception of what the cultural group as a whole thinks or believes rather than asking what the individual himself or herself believes.

This change in referent in the actual items used on the SAS inventory is in line with the referent-shift consensus model (Chan, 1998), where participants would be explicitly asked to answer the questions according to their individual opinion about the extent to which *people within their culture believe* each of the listed items (i.e., strongly believe, believe, no opinion, disbelieve, strongly disbelieve), but not the extent to which each participant himself or herself personally believes.

Once steps have been taken to increase the congruence between the levels of theory and of measurement, an additional step could be taken to demonstrate that the within-culture variability in terms of social axioms is low, such that there is a relative consensus and consistency across members within a particular culture (Klein, Dansereau, & Hall, 1994; Kozlowski & Klein, 2000). Although there are different arguments related to the extent to which within-group agreement should be demonstrated before group-level variables can be examined (see Peterson & Castro, 2006), one central feature to these arguments is the importance of establishing some agreement as a basis for conceptualizing collective constructs characterizing a culture's members-as-a-whole. This can be demonstrated with the calculation of specific statistical indices like r_{WG} (James, Demaree, & Wolf, 1984) or the Intraclass Correlation Coefficients: ICC1 and ICC2 (James, 1982; Klein et al., 2000).

Demonstrating significance in these indices supports the idea that social axioms have emerged as a collective construct and that members of a culture share these generalized beliefs, thereby justifying the aggregation of data to represent the structural properties of the social axioms at the societal level. Calculating the latter indices could provide two useful pieces of information: (1) whether adequate within-group agreement with regard to perceptions of social axioms exists and (2) whether between-culture variability exists thereby demonstrating that the level of sharing is distinctive across cultures (Patterson, Carron, & Loughhead, 2004).

Organizational Behavior

Similar considerations about issues of level can be taken for organizational behavior. In particular, researchers can differentiate between organizational behavior at the individual level versus the unit level of theory, measurement, and analysis. This attentiveness to levels allows researchers and theorists to examine workplace behavior, taking into account both the behavior itself and the context within which that behavior occurs.

Organizational Citizenship Phenomena

A number of definitions have been proposed for the construct of organizational citizenship at the individual level of theory (e.g., Borman & Motowidlo, 1993; Borman, Penner, Allen, & Motowidlo, 2001; Brief & Motowidlo, 1986; Organ,

1988, 1997; Van Dyne, Cummings, & Parks, 1995). In general, at this level of theory the construct is referred to as OCB and can be defined as

An employee's behavior that contributes to the broader organizational, social, and psychological environment in the work context. These behaviors tend not to be perceived as in-role nor as part of an employee's job and tend not to lead to formal organizational rewards (Borman & Motowidlo, 1993; Organ, 1997).

The examination of OCB as an individual level construct has been the main focus of this area of research (Podsakoff, Mackenzie, Paine, & Bachrach, 2000). Most of this research has been conducted within an individual-level framework, and has examined both the potential antecedents and consequences of OCB (see Organ & Ryan, 1995; Podsakoff et al., 2000; Schnake, 1991; Van Dyne et al., 1995; Van Dyne, Graham, & Dienesch, 1994 for reviews).

Social Axioms and Organizational Citizenship

In general, research that has examined the relationship between social axioms and the organizational citizenship phenomenon has been relatively recent. To date, this research has been conducted primarily at the individual level of focus (e.g., Kwantes, Karam, Kuo, & Towson, in press).

Individual-Level Social Axioms and Organizational Citizenship Behaviors

Research relating other culture-related variables and OCBs at the individual level has explored the relationship between a person's cultural values and his/her engagement in OCB. More specifically, the study of cultural values and OCB most often draws from Hofstede's (1984) societal-level values of individualism and collectivism. At the individual level, individualism and collectivism have often been referred to as a person's cultural orientation where the relevant dimensions of this orientation at this level labelled allocentrism and idiocentrism (Triandis, 1989). Given the allocentric attention to group norms, and emphasis on individual duties and responsibilities toward the group, it may be expected that in general an allocentric orientation will be positively related to engagement in OCB, while an idiocentric orientation will be negatively related to this form of employee behavior. Indeed, there is empirical evidence that supports these hypotheses (e.g., Moorman & Blakely, 1995; Ramamoorthy & Flood, 2004; Schmeling, 2001; Van Dyne, Vandewalle, Kostova, Latham, & Cummings, 2000).

A more fundamental question that has received little attention to date, however, is the extent to which culture is involved in not just the performance of OCB, but in the definition of OCB itself. Kwantes, Karam, Kuo, and Towson (in press) and Kwantes, Kuo, Towson & Karam (2005) examined the effect of generalized social beliefs on the extent to which individuals viewed behaviors typically defined in the literature as OCB as extra-role behaviors versus in-role behaviors. Their findings suggest that culturally transmitted internalized beliefs as measured by the SAS do affect these judgments.

In that study, data from a sample of 363 Canadian students were obtained. All respondents indicated that they belonged to one of the three broadly defined ethnic groups: White/Caucasian European, Asian, or Black/African. Their responses to the SAS were hierarchically regressed onto four dimensions of OCB. In order to remove covariance with the SAS, age and gender were entered into the first step of the equation and, in the second step, covariance related to ethnic background was partialled out. Finally, the six SAS factors (the original five factors plus Interpersonal Harmony) were entered into the equation at the third step.

Some of the results were in line with more common conceptualizations of OCB as extra-role organizational behaviors. For example, individuals who strongly endorsed social beliefs reflecting social cynicism and fate control were more likely to view OCB-type behaviors related to Conscientiousness as extra-role. A sense that social systems work against one therefore may be related to the view that it is not necessary to pay meticulous attention to detail, and that if one does so, it reflects going above and beyond the actual job requirements. On the other hand, contrary to the common conceptualization of OCB as extra-role, individuals who endorsed a strong belief in social complexity and reward for application more likely to conceptualize OCB-type behaviors in general as in-role. Individuals who endorse beliefs related to social complexity believe that there are multiple routes to any given end, and those who endorse the belief that hard work is rewarded are therefore more likely to have a broader definition of what a job entails and would be therefore more likely to see more tasks and behaviors as in-role. This was particularly true for behaviors classified under the Conscientiousness dimension. Furthermore, those who endorsed a strong belief in reward for application were also more likely to categorize the OCB dimension of Initiative as in-role.

Higher-Level Social Axioms and Collective Citizenship Behavior—Future Directions At a higher level of theory, measurement and analysis, OCB has been defined as “*a shared pattern of OCB-type ongoings and events such that all unit members engage in and interact through similar types and similar amounts of OCB*” and has been referred to as collective citizenship behavior or CCB (Karam & Kwantes, 2006, p. 5). The assumption upon which this conceptualization of CCB is based is that it is a shared unit-level property emerging through compositional, bottom-up processes and based on a homogeneous assumption of variability (see Klein & Kozlowski, 2000). Therefore, CCB captures the actions and interactions of group members with respect to OCB-type behaviors. While some organizational climates may encourage the development of CCB, providing the basis of the emergence of CCB by encouraging individual performance of OCB, CCB itself, however, refers to a collective pattern of behavior of the group as a whole. As it is a different construct from OCB, it is given a different name.

The two-dimensional structure previously found in the literature for individual-level OCB (i.e., OCB-O and OCB-I, Lievens & Anseel, 2004; Williams & Anderson, 1991) has also been found for CCB (Karam, 2007). At this level of focus, CCB-O represents OCB-type behaviors and behavioral interactions that benefit the organization

in general and CCB-I represents OCB-type behaviors and behavioral interactions directed toward other group members. Items attempting to measure both dimensions of this construct include referents that explicitly refer to the unit as-a-whole, for example: employees in this group willingly help others who have work-related problems; and the employees in this group obey the rules and regulations even when no one is watching.

Social axioms conceptualized at the societal level may represent a useful, even higher-level variable in research attempting to examine CCB. For example, in cultures or societies where generalized beliefs are held in line with dynamic externality (i.e., proaction in the face of external constraints), it may be that their members may be more prone to demonstrate those collective citizenship behaviors that are directed at other group members (i.e., CCB-I). This is indirectly supported by the findings of Bond et al. (2004) in which they found that dynamic externality is correlated ($r = 0.61, p < 0.01$) with measures of nation scores on Hofstede's (2001) collectivism scale. Previous cross-level research has suggested that nations with a high collectivist orientation have a general preference for the collective and for group harmony, consensus, and cooperation.

In light of this preference it is no surprise that there is evidence that, within collectivist cultures, organizational citizenship (which emphasizes relational and interpersonal criteria) is more salient in evaluating performance compared to task-related behaviors which are more salient in individualistic ones (Aycan, 2000). Furthermore, in collectivist cultures loyalty is paramount and there is an emphasis on compliance, obedience, and shared responsibility (Dedoussis, 2004). Based on this analysis, therefore, an interesting area of future research would be to conduct a cross-level analysis examining whether CCB is in fact positively related to dynamic externality.

The second societal-level social axiom identified in previous research was societal cynicism (Bond et al., 2004). This generalized belief is expected to be also related to CCB, but in the opposite direction. Social cynicism represents a generalized belief "reflecting the assessed hostility of the social system toward its members" (Bond et al., 2004, p. 565). In a particular society, the more likely it is that "citizens believe that they are surrounded by 'nature red in tooth and claw' and are suppressed by powerful others and subjected to the depredations of wilful and selfish individuals, groups, and institutions" (Bond et al., 2004, p. 566), the less likely it is that group members engage in behaviors and behavioral interactions that fall within the content domain of CCB. Future research is needed to empirically investigate whether such a cross-level, negative relationship exists in fact between CCB and societal cynicism.

Future Multilevel and Cross-Level Research on Social Axioms and Citizenship Behavior Societal-level culture as captured by social axioms is relevant for organizational research in a number of ways. The most obvious reflects Hofstede's assertion that organizational cultures do not operate in a social vacuum, but rather are influenced by the societal context within which they exist and function. Therefore, societal-level variables (e.g., social axioms, societal-cultural norms) are

likely to influence organizational factors (Fischer, Ferreira, Assmar, Redford, & Harb, 2005). Any work that attempts to examine the relationship between societal-level social axioms and CCB described in the previous section can be extended to cross-level work that examines the relationship between societal-level social axioms and organizationally relevant factors. This represents a cross-level relationship because it attempts to theoretically capture the top-down influence of societal-level cultural factors on organizationally relevant variables (e.g., organizational functioning and organizational characteristics, like CCB).

The relationship between social axioms and CCB/OCB can take additional forms. In particular, if we examine these two constructs within a cross-level organizational framework, a number of possibilities become apparent. For example, researchers could examine the effects of CCB on the individual-level relationship between social axioms and the performance of OCB. This represents a *cross-level moderator model* (Kozlowski & Klein, 2000). Within the framework of this model, the primary aim would be to explore the relationship between individual-level social axioms and the performance of OCB in the context of CCB.

The lower-level relationship between individually held social beliefs and the performance of OCB may theoretically be altered or moderated by the amount of CCB that is characteristic of the unit as-a-whole. Although previous research has not examined this relationship, theoretical work on a similar individual level relationship within the context of CCB provides a useful theoretical framework for this relationship (see Karam, 2007). In brief, this framework asserts that in units where CCB has emerged and is stable, the unit context can be characterized as unambiguous (i.e., Triandis & Bhawuk, 1997) with regard to OCB. In this unambiguous context, there are well recognized and widely accepted norms or guidelines (albeit informal) with regard to the performance of OCB. Therefore, employees who have been employed in the particular unit for a sufficient amount of time will likely rate their personal levels of OCB similarly, irrespective of whether they differ in their generalized social beliefs. However, in ambiguous situations, where the acceptable type or pattern of behavior is unspecified (i.e., CCB is weak or has not emerged), group members will be more likely to behave in accordance with their individually held social beliefs.

A second possible area of future research could examine the influence of CCB on individual-level social axioms. However, this presumes the relevance of applying the construct of social axioms to the workplace in particular. If such an application is assumed to be appropriate, then researchers can begin to explore a possible top-down, cross-level relationship (Kozlowski & Klein, 2000) between CCB and individual generalized beliefs. Practically, this type of relationship can be explored in organizational units (e.g., branch, department, work group) where (1) CCB has been demonstrated to have emerged and is stable and (2) the individual employee has been employed within the particular unit for a sufficient amount of time to allow generalized beliefs formed within the context of the workplace to have become apparent to the individual.

Organizational Commitment

Research in the area of organizational commitment has suggested that a variety of factors may be involved in the development of organizational commitment, that organizational commitment itself may be comprised of several components (see Mathieu & Zajac, 1990 for an overview), and that culture may predict some aspects of organizational commitment (see, e.g., Clugston, Howell, & Dorfman, 2000). Allen and Meyer (1990) and Meyer & Allen (1991) have suggested a three-component conceptualization of organizational commitment: affective, continuance, and normative commitment.

Affective commitment refers to the component of commitment that is based on an emotional attachment, and has as its basis a desire to be a part of the organization. The degree to which an individual feels as though he or she belongs to the group, and to which he or she is satisfied with the organization is reflected in this component of commitment. Continuance commitment is a component of organizational commitment that is based on an exchange between the individual and the organization, and the strength of this commitment is based on the degree to which the employee views the exchange as being in his or her favor. It results from an individual's choosing to continue to work for an organization because the rewards and benefits to that individual outweigh the costs, or because the costs of not staying with the organization are greater than the benefits of leaving the organization. Normative commitment is based on a belief that one has a responsibility to the organization, that one "ought" to be committed to an organization. This component of commitment reflects an individual's perceptions of what behaviors are considered acceptable in an organization. Individuals may enter an organization with an inclination to become committed as the result of previous socialization—either socialization experiences during the initial stages of entry into the organization, or as the result of cultural socialization in childhood (Clugston et al., 2000).

Social Axioms and Organizational Commitment

Each of the commitment components reflects a different attitudinal basis for an employee's decision to commit to working at a particular organization, and it has been suggested that each of these components has both shared and unique antecedents, consequences, and correlates (Allen & Meyer, 1996). Furthermore, cultural factors may exert a differential effect on each of these components of organizational commitment (Riordan & Vandenberg, 1994). Although work on social axioms and organizational commitment is a relatively more recent area of research, studies capturing various levels of theory and analysis can be identified (e.g., Kwantes, 2000; Remo & Kwantes, 2007).

Individual-Level Social Axioms and Organizational Commitment Research relating other culture-related variables and organizational commitment at the individual level has explored the relationship between a person's cultural values (i.e., allocentrism and idiocentrism) and his/her level of commitment. For example, in a study that used values as a measure of culture in research that compared engineers in India and the United States (Kwantes, 2000), the antecedents of organizational commitment differed depending on whether an individual was allocentric or idiocentric. These results suggest that while allocentrism predicted the extent of normative commitment reported in both countries, idiocentrism predicted affective commitment in the United States, but not in India.

A second study examining the relationship between social axioms and organizational commitment at the individual-level of focus was conducted by Remo and Kwantes (2007). This study examined the expectations of members of Generation Y from their employers. Specifically, Canadian employees between the ages of 18 and 25 were provided with a list of 22 different human resource practices common to organizations in Canada. Participants were asked to indicate the extent to which they judged that each of these practices would obligate them to the organization, both with respect to a narrow definition of organizational commitment (e.g., staying with the organization) and with respect to a broader definition (e.g., putting forth effort to perform the job). These 22 human resource practices were reduced to five practice "bundles," using factor analysis. The Social Axioms Survey was used as a measure of culture at the individual level, and each human-resource practice bundle was regressed onto the six SAS dimensions.

Contrary to expectations, religiosity did not emerge as a predictor of increased normative commitment for any of the human resource practice bundles. Fate control, however, was found to predict HR practice bundles that revolved around career development as well as incentives and recognition, suggesting that the individuals in this sample who believed in the power of external forces such as fate also perceived that organizations that provided more training, developmental opportunities, and other incentives should receive greater commitment from their employees.

Consistent with the definition of social cynicism, while it also emerged as a predictor for incentive and recognition practices, it was a strong predictor of beliefs that the insurance bundle (e.g. employer-paid life and disability insurance) and life-balance bundle (e.g. family leave, medical leave, and flex-time) should result in higher levels of normative commitment for employees. As social cynicism represents a general distrust of institutions, interpersonal relationships, and organizations, it is understandable that those human resource practices that help ensure institutional protection of its members would be seen as especially positive and engender a higher level of commitment to that organization.

The other noteworthy predictor of normative commitment in this sample was reward for application. This social axiom reflects a generally positive and optimistic view that personal investment of inputs such as effort will bring rewards. Thus, it is not surprising that it emerged as a predictor only for the human-resource practice bundles that were directly related to the job and career, specifically the job-content bundle

(e.g. empowering jobs and job enrichment programs) and the career-development bundle (e.g. tuition reimbursement, in-house and external training).

Higher-Level Social Axioms and Organizational Commitment—Future Directions An investigation of the relationship between these two constructs at a higher level of focus could examine the axioms held by groups and the norms accepted by that group related to organizational commitment. More specifically, while individuals may be committed to the organization, a group-level norm surrounding organizational commitment may also emerge suggesting a shared unit-level construct (Kozlowski & Klein, 2000) in which an expectation surrounding group-member commitment serves as a contextual factor.

Garr's (1998) work can serve (somewhat indirectly) as an example of work in this area. Garr used a measure of organizational culture that explicitly measures group norms using a group-level analysis. Respondents were provided with a list of organizational behaviors. The instructions for completing this measure stated that a respondent should describe her/his organizational culture by indicating the extent to which these particular norms were accepted in that organization. Additionally, she measured affective, normative, and continuance commitment to the organization. Her research indicated that, in the American organizations she sampled, behavioral norms in organizations were strongly related to affective organizational commitment. Since there was consensus around both the behavioral norms and their relationship to affective commitment, these findings suggest that shared organizational and group-level norms may exist around the construct of commitment to the organization. Certainly at a societal level, a strong relationship seems to exist between norms and behaviors surrounding organizational commitment, as cultural socialization has been found to be directly linked with different components of commitment (e.g. Clugston et al., 2000; Kwantes, 2000).

An examination of the etiology of each of the three components of organizational commitment highlights the fact that continuance commitment is the least likely of the three to emerge at the unit level. This component of commitment is based on Becker's (1960) "side bet" theory, where individuals judge the pros and cons associated with staying with an organization or leaving it. As this is typically an individual or family decision not communicated to others, an analogous collective construct is unlikely to emerge at the organizational unit level.

Affective commitment, on the other hand, may well emerge as a unit-level, or collective construct. This component of organizational commitment is based on emotive reactions to the organization as a whole. Both theory and research suggest that emotions may emerge from the individual level and become a collective construct. Stephan and Stephan (2000) defined collective emotions as those that are shared by members of a group or of a society. De Rivera, Kurrien, and Olsen (2007) refer to collective emotions, and in research that used both the individual and, separately, the group as a referent, they were able to identify different structures of emotions. With an individual focus, nine factors emerged, while with a group focus, only two factors emerged: social trust and social anger or fear. Clearly the collective constructs differed in nature from the individual constructs. Given that

collective affect exists, research examining affective organizational commitment at the unit level may be fruitful. Given, then, that social axioms can be measured at the unit level as well as at the individual level, and that norms about organizational commitment can be captured by the construct of organizational culture, we suggest that future research could explicitly examine this relationship.

Multilevel and CrossLevel Work on Social Axioms and Organizational Commitment—Future Directions The relationship between social axioms and organizational commitment has thus far examined single-level relationships either at the individual or unit level of theory and analysis. This type of single level work does not take into account the possible importance of higher-level cultural factors (e.g., organizational or societal culture) that can serve as contextual variables. To gain a more holistic view of organizational commitment, the inclusion of cultural context is paramount. This has been done in research through adopting a meso research paradigm (House et al., 1995) and/or conducting cross-level research (Rousseau, 1985). This work can be divided into two general types: research using national boundaries as a proxy for culture and research using societal-level values to represent higher-level culture.

Research that uses national boundaries as a proxy for culture in cross-level commitment research includes the work of, for example, Gautam, VanDICK, Wagner, Upadhyay and Davis (2005); Kwantes (2000); and Gelade, Dobson, and Gilbert (2006). Gautam et al. (2005) examined the cross-level relationship between societal culture and normative commitment in particular. As normative commitment is theorized to develop as a result of internalizing social and/or organizational norms (Meyer & Allen, 1997), this aspect of organizational commitment is of particular relevance to any examination of the effects of culture on organizational commitment. Gautam et al. (2005) used national context as a proxy for measuring societal culture, and found that employees in Nepal, a presumably collectivistic culture, exhibited higher levels of normative commitment than what is typically reported in the literature using samples from Western or Anglo organizations.

Kwantes (2003) also suggests that the employee level of organizational commitment is influenced by social cultural context. In this study, social context was related to organizational commitment whereby the different components of organizational commitment predicted different types of organizational behaviors depending on the country examined (i.e., India versus the USA). In the American sample, only affective organizational commitment was found to have a relationship with OCBs or withdrawal behaviors. In the Indian sample, however, all three components of organizational commitment played a role in explaining some OCB dimensions as well as withdrawal behaviors.

Gelade et al. (2006) similarly examined the relationship between national culture and organizational commitment. Economic factors were found to have some relationship with affective commitment—countries with low unemployment and higher rates of economic activity also scored higher in affective commitment. Their findings further suggested that affective commitment at the individual level is negatively related to group-level societal cynicism and positively related to group levels of egalitarianism and happiness.

Research using societal-level values to represent higher-level culture includes the work of, for example, Clugston et al. (2000) and Cohen (2007). Using Hofstede's value dimensions to assess societal culture, Clugston et al. (2000) explicitly examined the effect of social culture on organizational commitment. Treating power distance as an individual difference variable, they found that power distance was related to normative commitment, uncertainty avoidance was related to continuance commitment, and that collectivism was related to work group commitment in a sample of 156 employees of a public agency in the western United States. They note that their results provide strong support for the idea that socialization in a particular cultural context has an effect on the level and expression of organizational commitment, consistent with findings from previous research (Meyer & Allen, 1991; Wiener, 1982). In the second example, Cohen (2007) examined the effect of societal-level cultural values in five groups of Israeli teachers, each representing a different cultural group within Israel, on different types of commitment (organizational, occupation, and group commitment). His results led him to conclude that culture does have a strong effect on organizational commitment. More specifically, he found a strong relationship between collectivistic values and organizational commitment.

Of potentially greater interest for multilevel work is the construct of normative commitment. This component of organizational commitment is the least understood of the three components (Meyer & Allen, 1995). Part of the reason for this lack of understanding may result from the fact that normative commitment at the individual level is, by definition, an internalized response to group-level norms, whether those norms are organizationally based, socially based, or both. Individuals develop normative commitment through socialization factors, where they are introduced to group norms, and further reinforced by group pressure to conform to those norms. Theory suggests that social cultures may have an impact on the extent to which normative commitment develops, as some cultures foster group loyalties more strongly than others. Organizations can also have an impact on this developmental process, as when an individual enters into an organization, implicit assumptions of what the organization is expected to do for the employee, and what the employee is expected to do for the organization develop as the result of actions by that organization (e.g., how employees are socialized when they enter the organization or because employees feel that the organization has done extra things for them and they should reciprocate). Thus, an understanding of normative commitment at the individual level must take into account both individual-level variables and higher-level variables.

Conflict and Conflict Management

Conflict is a seemingly unavoidable aspect of organizational life. Conflict may result from differences of opinion or from disparate goals held by different members or units of the organization. While conflict itself implicitly assumes at least a dyad of two people, it is important to note that it is the perception of conflict by a member of a dyad or larger social unit that creates the stimulus for an attitudinal or behavioral

response. These responses may occur even if the conflict is perceived rather than real (Taylor & Moghaddam, 1994). Conflict management in organizations does not stress removing the sources of disagreement, but rather “designing effective macro-level strategies to minimize the dysfunctions of conflict” (Rahim, 2002, p. 208).

Much of the theory and research in conflict and conflict management has been conducted on the individual level, with a focus on interpersonal conflict. Rahim and Bonoma (1979) delineated five different styles of dealing with conflict at this level (obliging, integrating, avoiding, dominating, and compromising), using two orthogonal dimensions that emphasize either a concern for one’s own needs or a concern for the needs of others. When responding to a conflict situation, an individual who is highly concerned with his or her own personal needs as well as being highly concerned with the needs of others would adopt an *integrating* style of conflict management, that is, using a problem-solving strategy that highlights the exchange of information in order to reach a solution. On the other hand, someone who is not very concerned about the needs of either himself/herself or the other individual can be seen to engage in an *avoiding* conflict management strategy, in other words, not dealing with the conflict by ignoring that it exists. The *obliging* response to conflict involves adapting to the other’s needs in order to gain approval from the other, and reflects a low concern for the self as well as a high concern for others. A high concern for one’s own needs and a low concern for the others’ needs suggest that a *dominating* strategy will most likely be used, as the individual involved attempts to forcefully control the behavior of others. Finally, a *compromising* style of conflict management strives for the mutual satisfaction of both parties, and is characterized by a ‘give-and-take’ approach.

Social Axioms and Conflict Management

While the literature on culture and conflict suggests that there is a strong relationship between cultural values and beliefs and conflict management, most of the extant work uses national boundaries as a proxy for culture (see, e.g., Cingoz-Ulu & Lalonde, 2007; Tyler, Lind, & Huo, 2000) or focuses on the relationship between cultural values and style of conflict management (e.g., Brew & Cairns, 2004; Gire, 1997). Generally, this work has been at a single, usually the individual, level of analysis.

Individual-Level Social Axioms and Organizational Conflict In research that was confined to the individual level, Kaushal and Kwantes (2006) used both values and the SAS to operationalize culture and examined the relationship between these individual-level variables with individual selections of strategies for conflict management. Individual endorsement of cultural self-construals made a significant contribution toward explaining the dominating, obliging, and avoiding strategies of dealing with conflict. Using the hierarchical regression, data from a sample of 109 respondents indicated that cultural construals alone (specifically, individualism and collectivism) were related to the choice of conflict management style, such that higher levels of both vertical individualism and vertical collectivism were related to higher endorsement of the dominating strategy, and vertical collectivism alone

was a significant (and positive) predictor of the obliging strategy. Individualism and vertical collectivism emerged as significant (and positive) predictors of the avoiding strategy. Horizontal individualism was negatively related to this strategy, while vertical individualism was positively related.

Previously, Bond, Leung, Au, Tong, and Chemonges-Nielson (2004) had found that social axioms provided explanatory power over and above values alone in predicting preferences for conflict management styles. Reward for application was related to a preference for the accommodation style, religiosity was related to a preference for both accommodation and competition. Social cynicism and social complexity, however, were related to preferences for collaboration and compromise. Consistent with this work, Kaushal and Kwantes (2006) found that adding the SAS dimensions into the predictive equation explained significantly more of the variance found in these conflict management styles than did using culturally based self-construals alone. In the equation predicting the dominating style of conflict management, the only variable with significant and positive predictive impact was social cynicism. This axiom also emerged as a significant and positive predictor for the obliging style, along with both horizontal individualism and fate control (both negatively related). A number of variables provided significant prediction for the conflict management strategy of avoiding. Both horizontal individualism and religiosity emerged as negative predictors, while social cynicism, reward for application, and social complexity emerged as positive predictors.

Higher-Level Social Axioms and Organizational Conflict—Future Directions

Coalitions and subgroups develop in all organizations, and the development of these groups carries the potential for group level conflict. Just as social axioms may exist as a group-level construct, there is evidence that conflict may also exist at the group level as well as at the individual level. Situations where there is no individual level conflict may be related to conflict at the group level. Realistic group conflict theory (Sherif, Harvey, White, Hood, & Sherif, 1961) suggests that groups in competition for resources with other groups are in conflict situations. In line with this approach, Myers (2004) points out that individual decisions (such as using an organizational resource to complete a project) may not result in conflict at the individual level, but could result in conflict at the group level, if the resource were required but limited.

Group-level cultural factors, such as generalized social beliefs, may also have an impact on levels of conflict. Bar-Tal, Halperin, and De Rivera (2007) note that, just as individuals develop particular emotional orientations, so too can groups, and even societies. They point out that individual emotional reactions develop not only from individual experiences, but also as a result of group experiences. These reactions may result from experiences that an individual has as a result of group membership, but may also develop in reaction to experiences of other in-group members even in the absence of direct individual experience. Thus, conflict between groups can develop from between-group interactions and the shared meaning of those experiences that the members of each group are socialized into developing. Understanding how social axioms at the group level affect the perceptions of inter-group relations, and therefore the meaning ascribed to those interactions, would provide the basis for an examination of these constructs at the group or unit level.

Multilevel and Cross-Level Research on Social Axioms and Organizational Conflict—Future Directions Organizations provide a unique setting where issues of culture and of conflict can occur on multiple levels, interacting with each other in both top-down and bottom-up ways. From a top-down perspective, Markus and Lin (1999) point out that the way conflict is understood and acted upon at the individual level can be affected by the social-cultural context of the individual. They reported differences between implicit models of conflict and conflict management in four distinct social cultures: European-American, Asian-American, Mexican-American, and African-American. Differences in culture were reflected in differences in the way that individual group members approached conflict situations. For example, Mexican-Americans were found to try to resolve conflict by instilling a sense of interpersonal harmony, whereas African-Americans focused on dealing simultaneously with harmony while still addressing the underlying issue that caused the conflict originally.

Empirical work related to the top-down, cross-level relationship between societal culture and individual-level conflict management includes the work of Ting-Toomey et al. (1991) and Brew and Cairns (2004). These studies provide evidence that societal-level culture has an effect on the conflict management style that individuals are most likely to adopt. Studies that have explored the effects of cultural variables on Rahim's styles of conflict resolution in the workplace have demonstrated that individuals from the United States were more likely to use a dominating style of conflict resolution than those from Japan or Korea, and that people from China or Taiwan tended to make use of the obliging and avoiding styles more often than people from the United States (Ting-Toomey et al., 1991). Similarly, Brew and Cairns (2004) found that culture, measured by values, was related to differences in conflict management style between the Anglos and the Chinese in their sample. They point out that East-Asian cultures, such as the Chinese, tend to be more collectivistic in orientation, and, given this orientation, tend to avoid direct conflict whenever possible. In contrast, Anglo cultures such as the American tend to be more individualistic in orientation, with the result that individuals in those cultures exhibit a higher willingness to engage in assertive behaviors when in conflict situations. In line with previous research, Brew and Cairns found that the Anglos in their sample rated conflict management strategies that incorporated a degree of assertiveness as significantly preferable to strategies that were less confrontational.

Furthermore, Rahim's (2002) theory clearly suggests that an examination of organizational conflict reveals that bottom-up processes are also at work, where conflict at the individual level has important ramifications at the group, or unit level. According to this theory, incompatibility between goals as well as differing perspectives on issues can result in interpersonal conflict which can have an effect at several levels simultaneously. At the individual level, work stress, job satisfaction, and organizational commitment are affected, while at the group level, functioning is reduced as the conflict interferes with effective communication, task performance, and ultimately the productivity of the group as a whole. Given the extent to which cultural beliefs affect differing perspectives, and given that culture as measured by the SAS has previously been shown to affect perceptions of conflict (Bond et al., 2004; Kaushal & Kwantes, 2006), greater explication of the way in which culture and conflict manifest themselves at different levels of focus can provide a greater

understanding of the sources of organizational conflict as well as the most productive modes of conflict management in multicultural and global organizations.

Conclusion

Culture's effect on organizational behavior is strong. This chapter has presented some theoretical perspectives on how culture affects workplace behaviors, as well as some empirical evidence for the relationship between generalized social beliefs as measured by the Social Axioms Survey and three major workplace outcomes: OCBs, organizational commitment, and organizational conflict. Thus far, the research in this area has focused on the individual level of analysis for both culturally learned beliefs and organizational behaviors and attitudes. Steps have been taken to extend the concept of social axioms from the individual to higher levels of analysis at the unit, organization, or societal levels. As organizational behavior is nested within these ascending levels, the theoretical extension of social axioms and each of these organizational behaviors from the individual to the group level has been discussed, and future research has been proposed that can explicate the relationship between these constructs at both higher levels of analysis and across levels of analysis.

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Structural Equivalence and Differential Item Functioning in the Social Axioms Survey

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Abstract The present chapter focuses on the assessment of bias and equivalence of the Social Axioms Survey in a 41-country data set analyzed at the individual level. Two main issues are examined. The first, structural equivalence, addresses the question to what extent the constructs underlying the Social Axioms Survey are universal across the 41 countries. The second, differential item functioning, deals with the question of whether there are particular items or countries that are problematic. Exploratory factor analyses (testing structural equivalence) and analyses of variance (testing item bias) were carried out. The equivalence of the scales was adequate, but neither the exploratory factor analysis nor the analyses of variance provided indisputable support for the equivalence of any scale. The results led to three main conclusions: (1) social axioms show important similarities across cultures; (2) numerical comparisons of scores obtained in different countries must be treated with caution; (3) the observed bias was due to both item and country characteristics. Several items showed secondary (i.e., deviant) loadings in the global factorial solution. Level of economic development and religion (main religious denomination of a country) were associated with bias. In the discussion of our findings, a balanced treatment is recommended to account for both instrument and country characteristics that cause bias.

Theoretical and Methodological Framework

Social axioms deal with our implicit theories about how the world works; they are general beliefs about people and the social world. The initiative for a large-scale project to examine social axioms in a large number of cultures was taken by

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Leung and Bond (2004) and Leung et al. (2002). They suggested that social axioms are universal. On the basis of a literature review, interviews and content analysis of various sources, they developed the Social Axioms Survey, a scale of 60 items with the following five factors at the individual level (Leung & Bond):

1. *Social Cynicism*: This factor relates to a negative view of human nature, a mistrust of social institutions, and a biased view against some groups of people.
2. *Reward for Application*: This factor expresses the belief that effort, knowledge, and careful planning will provide positive results.
3. *Social Complexity*: This factor represents the belief that there are no general rigid rules, but multiple ways of achieving a given outcome.
4. *Fate Control*: This factor refers to the belief that life events are predetermined, but at the same time there are ways for people to influence those events.
5. *Religiosity*: This factor refers to the existence of supernatural forces and beneficial functions of religious belief (Leung & Bond, 2004).

Leung and Bond (2004) found that these five factors were reasonably well replicated across 40 cultures. They used a meta-analytic procedure to identify factors, which they found to show a stable factor structure across the cultures. Leung and Bond focused on identifying *similarity* across cultures: Are there social axioms that are shared across cultures? Our approach differs significantly from theirs and is aimed at establishing *equivalence*. We do not address the question of whether there are commonalities in social axioms across cultures but which social axioms have the same meaning across cultures and which items are adequate indicators of these social axioms. So, our approach starts from the findings of Leung and Bond's similarity approach—which has indicated the presence of culturally shared social axioms—and addresses more specific questions about this similarity.

Using a 41-country data set of the Social Axioms Survey, we examined bias and equivalence of the items and factors in individual-level analyses. (The term “country” is used in this chapter for convenience. Problems of the term in the current context should be acknowledged; thus, most samples were recruited from one cultural group in a country only and not all regions where participants were recruited are independent nation states.) Our main question was to what extent concepts and scores measured by the Social Axioms Survey can be compared across the 41 countries. More specifically, we address three issues:

1. *Structural equivalence*: To what extent are the constructs underlying the Social Axioms Survey universal across the 41 countries?
2. *Differential item functioning*: Is it possible to identify anomalous items that threaten the equivalence of the instrument?
3. *Interpretation of the bias*: Is it possible to identify country-level characteristics that are related to bias? We draw here on work by Georgas, Berry, and Van de Vijver (2004), who found that psychological characteristics of countries are related to their levels of economic development and the main religious denomination. We examine whether the latter two country-level variables are also associated with bias.

Theoretical Framework

The social axioms project starts from the premise that adult persons in all cultures have acquired stable expectations about contingencies and causal agencies operative in the world during their lives. Cultures do not socialize identical beliefs about these contingencies. For example, cultures can be expected to differ in the belief about the role a supreme being has in people's day-to-day affairs. So, the five types of beliefs are assumed to provide the universal structure of social axioms, but any two countries may have similar or dissimilar positions on each of the five.

Bond, Leung, Au, Tong, and Chemonges-Nielson (2004a) hypothesized that these five dimensions of social axioms can be combined with values to predict social behavior. The revised Schwartz Value Survey (1992, 1994) was administered together with the Social Axioms Survey (Leung et al., 2002) to a sample of 180 undergraduate students in Hong Kong in order to predict three classes of behavioral tendencies: styles of conflict resolution, ways of coping, and vocational interests. The regression analysis demonstrated that although social cynicism was moderately related to the value of self-enhancement, the empirical overlap was small. Social complexity correlated positively with the value dimension of self-transcendence, and fate control with conservation. Religiosity related positively to the values of conservation and self-transcendence and negatively to self-enhancement. It was found that social axioms enhanced the predictive power of values in explaining the measured social behaviors.

Methodological Framework

The exploration of bias and equivalence is guided by the framework developed by Van de Vijver and Leung (1997). These authors made a distinction between three sources of bias: constructs, method-related aspects (such as confounding sample differences and response styles), and items (item bias or differential item functioning). Construct bias occurs when the construct measured is not identical across groups. Method bias refers to all sources of assessment problems emanating from an instrument or its administration, such as varying concerns about social desirability. Finally, item bias (or differential item functioning) refers to anomalies at item level, such as poor translation of words or differences in connotations in multilingual studies. An item is biased if persons from different groups with the same level of the underlying trait (commonly operationalized as the total score on the scale or instrument measuring that trait) do not have the same expected score on that item.

Because of data constraints, the present chapter focuses on construct and item bias. An analysis of method bias typically requires additional data (such as social desirability questionnaire data administered to the same participants), whereas the assessment of construct and item bias can be based entirely on data obtained to date with the Social Axioms Survey.

The Present Study

We set out to examine the structural equivalence and item bias of the social axioms instrument as applied in 41 countries. If neither construct bias (structural equivalence) nor item bias (differential item functioning) plays a substantial role, our analysis provides important evidence for the universality of social axioms and their measure as developed by Leung and Bond (2004). However, if we find that either or both types of bias play a substantial role, it is important to describe that bias in a detailed manner and to identify its possible sources. The bias research tradition has been much stronger in identifying bias than in identifying its precursors. By a careful analysis of the content of any bias and of country characteristics that might be associated with that bias, we expect to be able to delineate aspects of social axioms that are unique to cultures, that are shared by some cultures, and that are shared by all cultures.

Method

Sample

The data from Leung and Bond (2004) were used for this study. The sample consisted of convenience student samples from 41 countries (with their respective sample sizes): Belgium (284), Brazil (200), Canada (146), China (160), Czech Republic (100), Estonia (124), Finland (100), France (120), Georgia (118), Germany (272), Greece (136), Hong Kong (162), Hungary (258), India (710), Indonesia (178), Iran (84), Israel (150), Italy (138), Japan (180), Korea (222), Latvia (142), Lebanon (110), Malaysia (324), the Netherlands (252), New Zealand (200), Nigeria (94), Norway (104), Pakistan (142), Peru (122), Philippines (172), Portugal (304), Romania (128), Russia (116), Singapore (138), Spain (104), Taiwan (246), Thailand (90), Turkey (198), United Kingdom (80), United States (682), and Venezuela (64). The total sample size was 7,654.

Instrument

All students filled out the Social Axioms Survey. The questionnaire of 60 items has five subscales: Social Cynicism (18 items), Reward for Application (14 items), Social Complexity (12 items), Fate Control (8 items), and Religiosity (8 items). Each item consists of a statement and participants indicate their level of (dis)agreement with the statement on a five-point scale. Psychometric properties of the instrument were adequate (Leung & Bond, 2004).

Statistical Analysis

Structural Equivalence The statistical analysis consisted of several procedures addressing structural equivalence and item bias. We first reviewed the global factorial solution of the combined data set and addressed the structural equivalence of the factor loadings across the 41 countries. Structural equivalence addresses the question to what extent the constructs that are supposed to be assessed by the Social Axioms Survey are comparable across all countries.

Structural equivalence is usually addressed by means of confirmatory or exploratory factor analyses. Our preference for exploratory factor analysis is based on previous experience with large scale studies (e.g., Georgas, Berry, Van de Vijver, Kagitcibasi, & Poortinga, 2006) in which we found that the standard procedures for establishing equivalence with structural equation modeling cannot be employed in a straightforward manner to studies involving many countries. A major problem is the interpretation of fit statistics when separate items are analyzed. Fit statistics sensitive to sample size, such as the global chi-square test, can be expected to invariably yield a poor fit in the current data set, even when models that impose no or few equality constraints across cultures are tested.

The examination of structural equivalence comprised or consisted of two different tests. In the first procedure, a pooled solution is computed which is a factor analysis of the covariance matrices averaged across all countries (and weighted by the sample size of each country). This pooled solution is our best estimate of the global solution. The factor loadings of this solution are then compared to the loadings in the factor solutions of the separate countries. This comparison determines to what extent each country is similar to the global solution.

We use Tucker's (1951) phi as a measure of factorial similarity; the statistic does not measure absolute identity across groups, but allows for differences in eigenvalues (reliabilities) of factors obtained in different groups. Tucker's phi measures similarity of loadings in two groups. Different rules of thumb have been proposed as to which lower value of phi is needed for establishing similarity of factors. Ten Berge (1986) has proposed 0.85 as a lower value, whereas Van de Vijver and Leung (1997) proposed 0.90. Chan, Ho, Leung, Cha, and Yung (1999) developed a bootstrap procedure to determine the lower bound. This approach was not adopted here because of the large number of comparisons involved.

The second procedure amounts to a comparison of the factor solutions of all countries in a pairwise manner. For each factor the matrix with pairwise agreement indices of the factors across the countries is subjected to a weighted multidimensional scaling procedure to examine to what extent the sample of 41 countries has subsets of countries showing high agreement indices within a subset and low agreement indices across subsets. The two procedures address the same problem, but their strengths are not the same. The first procedure in which each country is compared to the global average works better when deviations from the global solution are few and not systematic. The second procedure works better when the total sample of countries consists of clusters (e.g., all individualistic countries

show the same factor loadings and all collectivistic countries show the same factor loadings, but the loadings of the two clusters are not identical). Both procedures were employed here because we did not have prior expectations about the size or nature of the (dis)similarities of the factors in the various countries.

Differential Item Functioning (Item Bias) In the factor analytic procedures, we made a distinction between two kinds of comparisons—the first compared a country with the pooled solution, whereas the second made pairwise comparisons of all countries. An analogous distinction (but here applied in reverse order) was used in the analysis of item bias—first we compared all 41 countries with each other, and next we compared each country with the combined data of all the remaining countries.

We employed a procedure to identify item bias in Likert data that is described by Van de Vijver and Leung (1997). The procedure assumes that the scales scrutinized for bias are unidimensional. For each scale a separate set of item bias analyses was conducted. It was decided to split up the total sample into three, more or less equal-sized subgroups (with low, medium, and high total scale scores) in order to have adequate numbers in all groups to allow for stable estimates. A split in score levels was made for each scale separately.

The core of the item bias analysis is constituted by an analysis of variance in which country and total score level are the independent variables and item score is the dependent variable. Country is an independent variable with 41 levels in the first item bias analysis (in which all countries are compared) and 2 levels in the second analysis (in which a country is compared to the combination of all other countries). A main effect of culture points to the presence of uniform bias (Mellenbergh, 1982), indicating that an item with this bias is consistently more attractive (or less attractive) for at least those persons from one country in comparison to those from the other countries. A significant country-by-score-level component points to the presence of nonuniform bias; such an effect indicates that country differences in scores depend on score level. An item with this bias is better at discriminating in one country than in another.

The large sample size and the large number of countries in the analysis of variance of the present study complicate the analyses of item bias. The use of conventional significance tests in such large samples is likely to provide an overestimation of the number of biased items. Small and psychologically trivial differences may lead to uniform or nonuniform bias. The problem is compounded by the need to merge large groups of persons into three score levels. These problems were circumvented by examining effect sizes rather than significances. An item is considered to be biased if the sum of the effect sizes (partial η^2) of the uniform and nonuniform bias is 0.06 or higher (which constitutes a moderate effect; Cohen, 1988).

Analyses of bias and equivalence are usually employed to identify anomalies in measurement instruments that prevent full-fledged, cross-cultural comparisons of scores. However, the procedures can also be used to identify countries that show deviances in response patterns. We are interested in both features; it could well be that threats to equivalence come from specific items and from specific countries. The analyses that are reported below examine both item fit and country fit.

Results

The results are split into four parts: The first discusses the pooled solution; the results of the structural equivalence analyses are presented in the second part; item bias analyses are discussed in the third part; the fourth part integrates the results from the analyses of structural equivalence and item bias.

Factor Analysis of the Combined Data Set: Pooled Solution

In accordance with the existing literature on the factorial structure of social axioms at the individual level, we extracted five factors; they accounted for 24.33% of the variance. The factor loadings of the pooled data set are presented in Table 1. Most of the items had their highest loading on the intended factor.

We focus here on the items that showed minor or major deviations from the expected structure. An item is (somewhat arbitrarily) taken to be deviant if it shows a loading (in absolute value) of at least 0.30 on a nontarget factor or a loading on any factor that is larger (in absolute value) than its loading on the target factor. One item of the Social Cynicism scale is deviant, viz., item 16: “Humility is dishonesty.” The item had a higher loading on both Social Complexity and Fate Control than on Social Cynicism. These multiple loadings suggest that the item can be interpreted in different ways. The secondary loading of the item may be due to the ambiguous nature of the word “humility” which could refer to a value and a virtue that is a stable characteristic of personality, but also to context-specific negotiation tactics. The positive loading of 0.27 on Fate Control could indicate that some participants see humility as a tool to get ahead in life (various other items of Fate Control refer to ways individuals can influence their fate), and the negative loading of -0.22 on Social Complexity may indicate that humility is viewed by some participants as a successful ingratiation tactic (given its negative sign).

The fourth item of the Reward for Application scale, viz., “Mutual tolerance can lead to satisfactory human relationships,” had a secondary loading of 0.30 on the Social Complexity factor. The loading is not surprising, as many items of the latter factor refer to the mutual coordination of behavior among society members. In other words, both the coordination and reward aspects of the item are considered relevant by the participants.

The same combination seemed to affect the fifth item of the Social Complexity scale, viz., “To deal with things in a flexible way leads to success,” which had a secondary loading of 0.31 on the Reward for Application factor. The last item of the Social Complexity scale, viz., “One’s appearance does not reflect one’s character,” did not show a strong loading on any factor.

The last item of the Fate Control scale, viz., “A person’s talents are inborn,” showed the highest (though still modest) loading of 0.20 on Social Cynicism. It is noteworthy that the latter two items, which deal exclusively with the role of physiological factors,

Table 1 Loadings of the five-factor pooled solution

Scale and item content	Factor				
	Social Cynicism	Reward for Application	Social Complexity	Fate Control	Religiosity
<i>Social Cynicism</i>					
Kind-hearted people usually suffer losses	0.55	-0.02	0.04	0.02	0.01
Powerful people tend to exploit others	0.58	0.05	0.10	-0.10	0.05
Power and status make people arrogant	0.56	0.06	0.06	-0.12	0.08
Kind-hearted people are easily bullied	0.52	0.02	0.08	0.02	0.00
It is rare to see a happy ending in real life	0.43	-0.09	-0.08	0.05	-0.04
To care about societal affairs only brings trouble for yourself	0.42	-0.10	-0.16	0.13	-0.01
Harsh laws can make people obey	0.26	0.16	-0.10	0.06	0.06
Significant achievement requires one to show no concern for the means needed for that achievement	0.26	-0.01	-0.22	0.22	-0.07
The various social institutions in society are biased towards the rich	0.41	-0.07	0.19	-0.02	0.02
People deeply in love are usually blind	0.41	0.06	0.11	0.05	0.00
Old people are usually stubborn and biased	0.45	0.03	-0.04	0.13	-0.11
It is easier to succeed if one knows how to take short-cuts	0.30	0.06	0.10	0.21	-0.11
People will stop working hard after they secure a comfortable life	0.45	0.10	-0.09	-0.01	0.05
Females need a better appearance than males	0.28	0.09	-0.01	0.19	-0.01
Old people are a heavy burden on society	0.27	-0.03	-0.20	0.20	-0.13
Humility is dishonesty	0.19	0.03	-0.22	0.27	-0.17
Young people are impulsive and unreliable	0.35	0.05	-0.26	0.16	0.00
Most people hope to be repaid after they help others	0.34	0.05	0.18	0.04	-0.03
<i>Reward for Application</i>					
One will succeed if he/she really tries	-0.06	0.58	0.07	0.01	0.04
Hard working people will achieve more in the end	-0.01	0.56	-0.01	-0.03	0.07
Failure is the beginning of success	0.04	0.35	0.02	0.13	0.06
Mutual tolerance can lead to satisfactory human relationships	0.02	0.27	0.30	-0.05	0.07
One who does not know how to plan his or her future will eventually fail	0.12	0.43	-0.07	0.03	0.03

Table 1 (continued)

Scale and item content	Factor				
	Social Cynicism	Reward for Application	Social Complexity	Fate Control	Religiosity
Adversity can be overcome by effort	-0.06	0.49	0.20	-0.02	-0.02
A modest person can make a good impression on people	0.03	0.31	0.18	-0.05	0.12
Every problem has a solution.	-0.10	0.47	0.01	0.04	0.03
The just will eventually defeat the wicked	-0.08	0.40	-0.07	0.09	0.37
Competition brings about progress	0.14	0.38	0.11	0.00	-0.10
Good deeds will be rewarded, and bad deeds will be punished	-0.04	0.39	-0.07	0.14	0.38
Caution helps avoid mistakes	0.05	0.35	0.15	-0.03	0.07
Knowledge is necessary for success	0.05	0.44	0.10	-0.05	-0.01
Social justice can be maintained if everyone cares about politics	0.09	0.29	-0.11	0.16	0.00
<i>Social Complexity</i>					
Human behavior changes with the social context	0.12	0.07	0.46	-0.02	-0.07
One has to deal with matters according to the specific circumstances	0.03	0.20	0.44	0.02	-0.05
People may have opposite behaviors on different occasions	0.09	0.04	0.53	0.01	-0.04
Individual effort makes little difference in the outcome ^a	-0.21	0.11	0.32	-0.16	-0.04
To deal with things in a flexible way leads to success	0.05	0.31	0.26	0.10	0.00
To experience various life styles is a way to enjoy life	0.12	0.10	0.20	0.19	-0.20
One's behaviors may be contrary to his or her true feelings	0.09	-0.06	0.47	0.02	0.00
To plan for possible mistakes will result in fewer obstacles	0.04	0.27	0.29	0.10	-0.02
There is usually only one way to solve a problem ^a	-0.19	-0.02	0.39	-0.24	-0.03
Current losses are not necessarily bad for one's long-term future	-0.07	0.12	0.36	0.08	0.03
There are phenomena in the world that cannot be explained by science	0.05	-0.03	0.35	0.02	0.39
One's appearance does not reflect one's character	0.03	0.05	0.06	-0.10	0.00
<i>Fate Control</i>					
Fate determines one's successes and failures	0.17	-0.14	-0.03	0.46	0.23

(continued)

Table 1 (continued)

Scale and item content	Factor				
	Social Cynicism	Reward for Application	Social Complexity	Fate Control	Religiosity
Individual characteristics, such as appearance and birthday, affect one's fate	0.15	-0.08	0.08	0.54	0.07
There are certain ways to help us improve our luck and avoid unlucky things	0.00	0.20	0.07	0.47	0.02
There are many ways for people to predict what will happen in the future	0.02	0.02	0.10	0.56	0.06
All things in the universe have been determined	0.14	-0.04	-0.05	0.33	0.45
Most disasters can be predicted	0.05	0.12	-0.07	0.47	-0.03
A person's talents are inborn	0.20	0.04	0.02	0.11	0.14
Good luck follows if one survives a disaster	0.08	0.21	-0.07	0.41	0.09
<i>Religiosity</i>					
There is a supreme being controlling the universe	0.03	0.00	0.11	0.12	0.66
Belief in a religion makes people good citizens	0.11	0.23	-0.16	0.11	0.55
Ghosts or spirits are people's fantasy ^a	-0.08	-0.20	0.16	0.24	0.30
Belief in a religion helps one understand the meaning of life	0.04	0.12	-0.01	0.04	0.72
Religious faith contributes to good mental health	0.02	0.11	-0.01	0.04	0.67
Religious people are more likely to maintain moral standards	0.17	0.21	-0.12	-0.01	0.44
Religion makes people escape from reality ^a	-0.20	-0.01	-0.09	-0.18	0.54
Religious beliefs lead to unscientific thinking ^a	-0.23	-0.06	0.05	-0.13	0.52

^aReversed item. *Note:* Loadings of items on their target factors are printed in bold. Salient secondary loadings (i.e., absolute loadings above 0.30 on nontarget factors and absolute loadings that are larger than the loading of the item on the target factor) are bold, italicized.

do not show a clear factor pattern. It could well be that in the groups of students of the present study these physiological features do not belong to the realm of social axioms.

The last factor, Religiosity, showed an interesting pattern. The main finding of our analysis was that all relevant items showed high loadings on that factor; yet, five more items of other factors showed salient loadings: Reward for Application, item 9: “The just will eventually defeat the wicked”; Reward for Application, item 11: “Good deeds will be rewarded, and bad deeds will be punished”; Social Complexity, item 6: “To experience various life styles is a way to enjoy life” (negative loading); Social Complexity, item 11: “There are phenomena in the world that cannot be explained by science”; and Fate Control, item 5: “All things in the universe have been determined.” All these items refer to issues that are associated with theology and relinquishing power to a supreme being.

Leung and Bond (2004) reported the same five factors, but their factor loadings are slightly different from ours. There are four reasons for these small differences. Firstly, we analyzed the full set of 60 items, while Leung and Bond report the loadings of 39 pancultural items, with many problematic items excluded. Secondly, we analyzed data from 41 countries while Leung and Bond analyzed data from 40 countries that have relatively larger sample sizes. Thirdly, we employed a factor analytic procedure while Leung and Bond employed a meta-analytic procedure. Finally, we weighted the data by sample size, while Leung and Bond used unweighted procedures.

It can be concluded that our results largely replicate those of Leung and Bond (2004), and most items showed their strongest loadings on the intended factor. Some items contained words or expressions which were interpreted in more than one way by participants, and the Religiosity factor was not just about religion and a supreme being but also about other religion-related convictions, such as the belief in a just world and the belief that certain things in life cannot be explained by science.

Structural Equivalence Analysis

Comparison of Pooled Factors with Country Factors The first analysis of structural equivalence addressed the similarity of the five factors in the pooled data set to the factor solutions in each of the 41 countries. The results are presented in Table 2. The first striking observation is that with the exception of the USA, there is no country with a value of phi, averaged across the five factors, that is larger than 0.90. An application of Ten Berge’s lower limit of 0.85 increases the group to ten non-developing countries (Hong Kong, Brazil, Germany, India, the Netherlands, Canada, Hungary, Taiwan, and the USA). However, most countries do not meet the criterion of 0.85. A closer inspection showed that the lowest values (i.e., average values lower than 0.70) were obtained for Thailand (0.56), Nigeria (0.63), Pakistan (0.63), Georgia (0.67), Indonesia (0.67), and Iran (0.68). Although one can only speculate about the reasons for these low values, it is noteworthy that these countries are culturally dissimilar from the mainly Western countries, which show higher agreement statistics. Moreover, very few comparative studies have

Table 2 Correspondence of the factors of the pooled solution with the factor solutions in the 41 countries

Country	Social Cynicism	Reward for Application	Social Complexity	Fate Control	Religiosity	<i>Average</i>
Belgium	0.87	0.88	0.82	0.87	0.49	<i>0.79</i>
Brazil	0.92	0.89	0.92	0.79	0.80	<i>0.86</i>
Canada	0.94	0.91	0.90	0.83	0.76	<i>0.87</i>
China	0.76	0.89	0.89	0.65	0.42	<i>0.72</i>
Czech	0.83	0.82	0.80	0.74	0.50	<i>0.74</i>
Estonia	0.84	0.81	0.81	0.78	0.49	<i>0.75</i>
Finland	0.88	0.87	0.74	0.69	0.63	<i>0.76</i>
France	0.91	0.87	0.68	0.77	0.60	<i>0.77</i>
Georgia	0.80	0.61	0.71	0.64	0.59	<i>0.67</i>
Germany	0.89	0.91	0.94	0.74	0.81	<i>0.86</i>
Greece	0.92	0.86	0.83	0.73	0.66	<i>0.80</i>
Hong Kong	0.90	0.94	0.87	0.80	0.76	<i>0.85</i>
Hungary	0.93	0.91	0.94	0.83	0.72	<i>0.87</i>
India	0.91	0.91	0.90	0.77	0.82	<i>0.86</i>
Indonesia	0.61	0.79	0.79	0.50	0.67	<i>0.67</i>
Iran	0.80	0.87	0.82	0.48	0.44	<i>0.68</i>
Israel	0.78	0.92	0.79	0.81	0.55	<i>0.77</i>
Italy	0.85	0.92	0.88	0.76	0.70	<i>0.82</i>
Japan	0.65	0.89	0.86	0.76	0.57	<i>0.75</i>
Korea	0.94	0.92	0.88	0.81	0.67	<i>0.84</i>
Latvia	0.89	0.80	0.86	0.82	0.57	<i>0.79</i>
Lebanon	0.91	0.90	0.81	0.82	0.78	<i>0.84</i>
Malaysia	0.77	0.91	0.80	0.52	0.57	<i>0.72</i>
Netherlands	0.88	0.89	0.92	0.88	0.71	<i>0.86</i>
New Zealand	0.87	0.87	0.87	0.86	0.59	<i>0.81</i>
Nigeria	0.65	0.78	0.56	0.57	0.60	<i>0.63</i>
Norway	0.84	0.85	0.85	0.77	0.69	<i>0.80</i>
Pakistan	0.73	0.78	0.82	0.48	0.35	<i>0.63</i>
Peru	0.67	0.77	0.65	0.62	0.77	<i>0.70</i>
Philippines	0.91	0.88	0.89	0.68	0.55	<i>0.78</i>
Portugal	0.88	0.87	0.90	0.84	0.66	<i>0.83</i>
Romania	0.82	0.90	0.88	0.73	0.86	<i>0.84</i>
Russia	0.77	0.70	0.72	0.73	0.64	<i>0.71</i>
Singapore	0.90	0.89	0.88	0.77	0.76	<i>0.84</i>
Spain	0.83	0.82	0.83	0.48	0.61	<i>0.71</i>
Taiwan	0.87	0.92	0.94	0.90	0.81	<i>0.89</i>
Thailand	0.46	0.62	0.76	0.47	0.51	<i>0.56</i>
Turkey	0.93	0.90	0.86	0.80	0.31	<i>0.76</i>
United Kingdom	0.85	0.82	0.75	0.57	0.57	<i>0.71</i>
United States	0.98	0.96	0.95	0.92	0.87	<i>0.94</i>
Venezuela	0.51	0.78	0.80	0.76	0.68	<i>0.71</i>
<i>Average</i>	<i>0.83</i>	<i>0.85</i>	<i>0.83</i>	<i>0.73</i>	<i>0.64</i>	<i>0.77</i>

Note: The average Tucker's phi values per country and per factor are given in italics.

been conducted in these countries, with the implication that there are no reference data available that could possibly account for the low values.

A second observation from the table involves the low global average (across all factors and countries) of 0.77; this low value points to equivalence issues in the data set. Particularly the last two factors (Fate Control and Religiosity) revealed low averages (of 0.73 and 0.64, respectively). We cannot rule out the possibility that these low values are inherent to the lower cross-cultural validity of these constructs as compared to the first three factors; yet, the more obvious explanation may be the number of markers for the factors. The last two scales were the shortest (with eight items each). As a consequence, the eigenvalues of these factors are lower and the factor structure is less well defined, as is often found in the literature.

It can be concluded that overall, the item-level analyses do not unequivocally support the structural equivalence of the factors in the comparison of each country with the pooled factor solution. In particular Fate Control and Religiosity do not meet the requirements of structural equivalence in most countries. Although not further documented here, we tried to eliminate some items of scales that seemed to contribute most to the misfit. The approach of selective item elimination did not lead to acceptable values of phi for all countries.

Thirty-Nine Item Version At this point we addressed the question whether our findings would replicate for the subset of 39 pancultural items proposed by Leung and Bond (2004). We constructed a pooled factorial solution extracting the same five factors on the basis of the 39 items and compared the solutions of the 41 countries to the pooled one. Tucker's phi values, averaged across countries, were: 0.89 (Social Cynicism), 0.86 (Reward for Application), 0.85 (Social Complexity), and 0.72 (both Fate Control and Religiosity); the global average across factors and countries was 0.81. Thus, there was some visible improvement in overall structural equivalence, but especially Fate Control and Religiosity (the item content of which two has hardly changed in the 39-item version) remained problematic. In sum, it seems safe to conclude that the reasons for the observed misfit do not reside in an identifiable subset of items.

Pairwise Comparison of Country Factors The next analysis computed factor solutions for each of the 41 countries. The analysis produced a country-by-country agreement matrix for each factor. These five matrices yielded average values of 0.72, 0.76, 0.69, 0.65, and 0.62, respectively (see Table 3 for the average agreement indices); as could be expected, these values are somewhat lower than the values found for the pooled solution (of 0.83, 0.85, 0.83, 0.73, and 0.64, respectively). We were, however, interested in the patterning of the agreement indices across countries. Therefore, we conducted a weighted multidimensional scaling analysis (also known as INDSCAL) on the country-by-country agreement matrices; the five factors were used as the replications. Solutions of two up to six dimensions were examined. The stress values of these solutions were 0.41, 0.32, 0.27, 0.23, and 0.19, respectively. The squared multiple correlations were 0.20, 0.25, 0.27, 0.29, and 0.29. It was decided to extract three dimensions. The coordinates of the countries in this solution are given in Table 4. A visual inspection of the coordinates does not suggest a clear interpretation of the dimensions.

Table 3 Average agreement index of a country across all pairwise country comparisons per factor

Country	Social Cynicism	Reward for Application	Social Complexity	Fate Control	Religiosity	<i>Average</i>
Belgium	0.79	0.77	0.62	0.67	0.62	<i>0.69</i>
Brazil	0.78	0.79	0.77	0.64	0.61	<i>0.72</i>
Canada	0.79	0.78	0.77	0.68	0.70	<i>0.75</i>
China	0.70	0.77	0.70	0.60	0.53	<i>0.66</i>
Czech	0.68	0.73	0.70	0.61	0.51	<i>0.65</i>
Estonia	0.71	0.72	0.72	0.64	0.62	<i>0.68</i>
Finland	0.76	0.76	0.61	0.64	0.58	<i>0.67</i>
France	0.78	0.74	0.60	0.59	0.64	<i>0.67</i>
Georgia	0.68	0.63	0.63	0.57	0.58	<i>0.62</i>
Germany	0.77	0.79	0.72	0.71	0.71	<i>0.74</i>
Greece	0.78	0.83	0.67	0.69	0.73	<i>0.74</i>
Hong Kong	0.74	0.82	0.70	0.68	0.60	<i>0.71</i>
Hungary	0.79	0.78	0.76	0.66	0.63	<i>0.72</i>
India	0.77	0.79	0.77	0.62	0.68	<i>0.73</i>
Indonesia	0.62	0.73	0.63	0.73	0.53	<i>0.65</i>
Iran	0.72	0.76	0.69	0.52	0.50	<i>0.64</i>
Israel	0.71	0.80	0.67	0.73	0.62	<i>0.71</i>
Italy	0.70	0.80	0.81	0.64	0.62	<i>0.71</i>
Japan	0.60	0.82	0.71	0.67	0.66	<i>0.69</i>
Korea	0.78	0.77	0.71	0.69	0.57	<i>0.70</i>
Latvia	0.75	0.68	0.71	0.71	0.52	<i>0.67</i>
Lebanon	0.79	0.83	0.64	0.69	0.68	<i>0.73</i>
Malaysia	0.65	0.74	0.69	0.53	0.64	<i>0.65</i>
Netherlands	0.76	0.79	0.75	0.68	0.68	<i>0.73</i>
New Zealand	0.71	0.74	0.70	0.73	0.65	<i>0.71</i>
Nigeria	0.59	0.67	0.48	0.68	0.67	<i>0.62</i>
Norway	0.72	0.82	0.71	0.65	0.62	<i>0.70</i>
Pakistan	0.62	0.72	0.65	0.68	0.51	<i>0.64</i>
Peru	0.63	0.78	0.61	0.54	0.69	<i>0.65</i>
Philippines	0.74	0.79	0.67	0.71	0.68	<i>0.72</i>
Portugal	0.81	0.80	0.69	0.71	0.66	<i>0.73</i>
Romania	0.72	0.76	0.76	0.65	0.63	<i>0.71</i>
Russia	0.65	0.71	0.58	0.63	0.59	<i>0.63</i>
Singapore	0.77	0.77	0.71	0.68	0.65	<i>0.71</i>
Spain	0.71	0.70	0.67	0.55	0.56	<i>0.64</i>
Taiwan	0.74	0.77	0.78	0.73	0.65	<i>0.73</i>
Thailand	0.44	0.70	0.64	0.45	0.50	<i>0.55</i>
Turkey	0.79	0.83	0.73	0.63	0.55	<i>0.71</i>
United Kingdom	0.70	0.78	0.60	0.59	0.62	<i>0.66</i>
United States	0.82	0.80	0.77	0.76	0.70	<i>0.77</i>
Venezuela	0.57	0.70	0.66	0.70	0.54	<i>0.63</i>
<i>Average</i>	<i>0.72</i>	<i>0.76</i>	<i>0.69</i>	<i>0.65</i>	<i>0.62</i>	<i>0.69</i>

Note: The average Tucker's phi values per country and per factor are given in italics.

Table 4 Country coordinates in the three-dimensional weighted multidimensional scaling solution

Country	Dimension I	Dimension II	Dimension III
Belgium	1.09	-0.78	-0.60
Brazil	-1.04	-0.55	0.87
Canada	-0.92	-0.75	0.45
China	1.62	0.05	-0.66
Czech	1.77	0.18	0.71
Estonia	1.51	-0.09	-0.61
Finland	0.45	-1.57	-0.65
France	1.06	1.30	-0.48
Georgia	0.71	1.75	0.64
Germany	0.77	0.62	-0.69
Greece	-0.19	-1.28	-0.50
Hong Kong	-1.13	-0.28	0.96
Hungary	0.84	-0.72	-0.71
India	-1.23	0.55	-0.23
Indonesia	-0.44	1.68	0.93
Iran	-1.58	0.98	-0.47
Israel	0.16	-1.24	-0.86
Italy	0.80	0.51	1.21
Japan	-0.21	-0.83	1.76
Korea	-0.92	0.90	0.67
Latvia	1.53	0.44	0.64
Lebanon	-0.73	-1.18	-0.53
Malaysia	-1.44	0.58	-1.01
Netherlands	0.86	-0.83	-0.68
New Zealand	-0.55	-1.08	0.79
Nigeria	-0.26	1.69	-1.36
Norway	-0.68	-1.29	0.76
Pakistan	0.26	1.67	1.17
Peru	-1.72	0.26	-0.99
Philippines	-0.34	1.07	-0.87
Portugal	0.51	-0.99	-0.63
Romania	-1.36	0.29	0.20
Russia	1.01	-1.58	0.74
Singapore	-1.09	-0.67	0.90
Spain	1.44	-0.42	1.13
Taiwan	-0.44	-0.94	0.78
Thailand	-0.24	-0.05	-3.66
Turkey	1.48	0.37	0.57
United Kingdom	0.11	1.70	-0.65
United States	-0.52	-0.67	-0.44
Venezuela	-0.93	1.20	1.40

We computed correlations of the coordinates with two kinds of country-level variables, namely the Gross Domestic Product (GDP, corrected for differences in purchasing power) in 2004 and the main religious denomination of a country (cf., Georgas et al., 2004). In the case of the latter variable, we assigned the countries according to the self-declared denomination of the largest part of the country's population as reflected in the most recent available census. We distinguished between Roman Catholic countries (Belgium, Brazil, Canada, France, Hungary, Italy, the Netherlands, Peru, the Philippines, Portugal, Spain, and Venezuela), Protestant countries (Finland, Germany, Latvia, New Zealand, Norway, United Kingdom, and the United States), Eastern Orthodox countries (Georgia, Greece, Romania, and Russia), Muslim countries (Indonesia, Iran, Lebanon, Malaysia, Nigeria, Pakistan, and Turkey), Buddhist countries (Hong Kong, Japan, Singapore, Taiwan, and Thailand), and atheist countries (China, Czech Republic, Estonia, and South Korea). India (Hinduism) and Israel (Judaism) were not included in any cluster because their main religion is unique for that country in the current data set, which prevents the disentangling of country- and religion-specific effects. We constructed dummy variables for each religious denomination; so, we used denomination as a dichotomous variable for the computation of correlations.

The atheist countries tended to have a higher score on the first dimension of the weighted multidimensional scaling solution, $r(41) = .33, p < .05$, and GDP was negatively related to the second dimension, $r(41) = -.50, p < .05$. No other correlation differed significantly from 0. It can be concluded that there is no simple patterning in the pairwise agreement matrices of the factors across the various countries.

Differential Item Functioning

As a first step to assessing item bias, we conducted analyses of variance with country and sum-scale-score per factor as the independent variables and item score as the dependent variable. The bias indicators (combined effect sizes for main effect of country and the interaction between country and sum score) are presented in the first column of Table 5. Out of the 60 items, 49 (82%) were biased with an effect size (partial η^2) of at least 0.06. For the remaining 11 items, the effects were significant as well, but effect sizes were lower (one was at 0.03, one at 0.04 and all the rest at 0.05). Four items had large country effects (above 0.14): "Humility is dishonesty" (Social Cynicism), "Individual effort makes little difference in the outcome" and "One's appearance does not reflect one's character" (Social Complexity), and "Good luck follows if one survives a disaster" (Fate Control).

To explore the sources of the observed bias, we conducted a series of analyses of variance in which we compared each of the 41 countries with the rest. Conceptually, this analysis is comparable to the exploratory factor analysis of the pooled data in which we also compared each country with the global average of the countries. We constructed dummy variables for each country and tested the effects of these variables on item score, again splitting up the sample according to

Table 5 Overall bias (expressed as the sum of uniform and nonuniform bias effect sizes) for the 60 items of the social Axioms Survey by country (comparing all), country-rest pair, GDP level, and religion

Items per scale	Partial η^2			
	Country	Country-rest	GDP level	Religion
<i>Social Cynicism</i>				
Kind-hearted people usually suffer losses	0.10	Malaysia 0.03	<u>0.02</u>	<u>0.03</u>
Powerful people tend to exploit others	0.06		0.01	0.01
Power and status make people arrogant	0.07		0.01	0.01
Kind-hearted people are easily bullied	0.10		<u>0.03</u>	<u>0.03</u>
It is rare to see a happy ending in real life	0.09		<u>0.03</u>	0.01
To care about societal affairs only brings trouble for yourself	0.07		<u>0.02</u>	0.01
Harsh laws can make people obey	0.07		0.01	0.00
Significant achievement requires one to show no concern for the means needed for that achievement	0.08		<u>0.02</u>	<u>0.03</u>
The various social institutions in society are biased towards the rich	0.06		0.01	<u>0.02</u>
People deeply in love are usually blind	0.09		<u>0.02</u>	<u>0.02</u>
Old people are usually stubborn and biased	<u>0.05</u>		0.01	<u>0.02</u>
It is easier to succeed if one knows how to take short-cuts	0.12	Hungary 0.02	<u>0.04</u>	<u>0.03</u>
People will stop working hard after they secure a comfortable life	0.07		<u>0.02</u>	0.01
Females need a better appearance than males	0.11		<u>0.02</u>	0.06
Old people are a heavy burden on society	0.08	Pakistan 0.03	<u>0.02</u>	<u>0.02</u>
Humility is dishonesty	<u>0.16</u>	India 0.06	<u>0.04</u>	<u>0.03</u>
Young people are impulsive and unreliable	0.06		<u>0.02</u>	<u>0.02</u>
Most people hope to be repaid after they help others	0.07		0.01	<u>0.03</u>
Mean for scale	0.08	0.00	<u>0.02</u>	<u>0.02</u>
<i>Reward for Application</i>				
One will succeed if he/she really tries	0.03		0.01	0.01
Hard working people will achieve more in the end	0.07		<u>0.02</u>	<u>0.02</u>
Failure is the beginning of success	0.09		<u>0.02</u>	<u>0.03</u>
Mutual tolerance can lead to satisfactory human relationships	0.11		<u>0.04</u>	0.01
One who does not know how to plan his or her future will eventually fail	0.10		<u>0.03</u>	<u>0.05</u>
Adversity can be overcome by effort	0.06		0.01	0.00
A modest person can make a good impression on people	0.08		<u>0.03</u>	<u>0.02</u>
Every problem has a solution	0.06		<u>0.02</u>	0.01
The just will eventually defeat the wicked	0.08		<u>0.03</u>	0.01

(continued)

Table 5 (continued)

Items per scale	Partial η^2			
	Country	Country-rest	GDP level	Religion
Competition brings about progress	0.08		0.01	<u>0.02</u>
Good deeds will be rewarded, and bad deeds will be punished	0.09		<u>0.04</u>	<u>0.03</u>
Caution helps avoid mistakes	0.07		0.01	<u>0.02</u>
Knowledge is necessary for success	0.06		0.01	0.01
Social justice can be maintained if everyone cares about politics	0.09		<u>0.02</u>	<u>0.02</u>
Mean for scale	0.08	.00	<u>0.02</u>	<u>0.02</u>
<i>Social Complexity</i>				
Human behavior changes with the social context	<u>0.05</u>		0.01	0.01
One has to deal with matters according to the specific circumstances	<u>0.05</u>		0.01	0.00
People may have opposite behaviors on different occasions	0.06		0.01	<u>0.02</u>
Individual effort makes little difference in the outcome ^a	<u>0.18</u>	India 0.03 , Malaysia 0.06	0.07	0.07
To deal with things in a flexible way leads to success	0.09		<u>0.02</u>	<u>0.03</u>
To experience various life styles is a way to enjoy life	0.09		0.01	<u>0.04</u>
One's behaviors may be contrary to his or her true feelings	0.07		<u>0.02</u>	<u>0.02</u>
To plan for possible mistakes will result in fewer obstacles	0.09		<u>0.04</u>	<u>0.04</u>
There is usually only one way to solve a problem ^a	0.08		<u>0.04</u>	<u>0.03</u>
Current losses are not necessarily bad for one's long-term future	0.10	Portugal 0.02	0.01	<u>0.02</u>
There are phenomena in the world that cannot be explained by science	<u>0.05</u>		0.01	0.01
One's appearance does not reflect one's character	<u>0.15</u>	Korea 0.02 , New Zealand 0.03	<u>0.04</u>	<u>0.04</u>
Mean for scale	0.09	0.00	<u>0.02</u>	<u>0.03</u>
<i>Fate Control</i>				
Fate determines one's successes and failures	<u>0.05</u>		0.01	0.01
Individual characteristics, such as appearance and birthday, affect one's fate	0.07		<u>0.04</u>	<u>0.04</u>
There are certain ways to help us improve our luck and avoid unlucky things	0.12		0.01	<u>0.04</u>
There are many ways for people to predict what will happen in the future	<u>0.05</u>		0.01	0.01
All things in the universe have been determined	0.13	Indonesia 0.02 , Malaysia 0.02	<u>0.05</u>	0.08

(continued)

Table 5 (continued)

Items per scale	Partial η^2			
	Country	Country-rest	GDP level	Religion
Most disasters can be predicted	<u>0.05</u>		0.01	<u>0.02</u>
A person's talents are inborn	0.09		<u>0.02</u>	<u>0.03</u>
Good luck follows if one survives a disaster	<u><i>0.18</i></u>	India <u><i>0.05</i></u>	0.07	<u>0.05</u>
Mean for scale	0.09	0.00	<u>0.03</u>	<u>0.03</u>
<i>Religiosity</i>				
There is a supreme being controlling the universe	0.12	India <u><i>0.03</i></u>	0.06	0.06
Belief in a religion makes people good citizens	0.09		<u>0.05</u>	0.06
Ghosts or spirits are people's fantasy ^a	0.08		0.01	<u>0.02</u>
Belief in a religion helps one understand the meaning of life	<u>0.04</u>		0.01	<u>0.02</u>
Religious faith contributes to good mental health	0.07		<u>0.02</u>	<u>0.02</u>
Religious people are more likely to maintain moral standards	0.06		0.01	0.01
Religion makes people escape from reality ^a	<u>0.05</u>		0.01	0.01
Religious beliefs lead to unscientific thinking ^a	<u>0.05</u>		0.01	<u>0.02</u>
Mean for scale	0.07	0.00	<u>0.02</u>	<u>0.03</u>
Mean for social Axions Survey	0.08	0.00	<u>0.02</u>	<u>0.02</u>

^aReversed item. *Note:* The Country-Rest column presents only the countries that had an effect of at least 0.02 or 0.06 for particular items in the country-rest analysis. Small effect sizes (between 0.02 and 0.06) are underlined; medium effect sizes (between 0.06 and 0.14) are given in bold; large effect sizes (over 0.14) are given in bold, italicized, and double-underlined.

sum score level. The outcomes of this series of analyses can be described as a large matrix containing the effect sizes of each of the 41 country-rest pairs on each of the 60 items, adding up to 2,460 entries.

It is remarkable that there were only 11 instances of low and two of medium effects (presented in the second column of Table 5) in such a large data matrix. As to the two medium effects, Indian respondents were more likely to score higher than the rest on "Humility is dishonesty," irrespective of mean Social Cynicism, and Malaysian responses on "Individual effort makes little difference in the outcome" were similarly shifted upwards irrespective of mean Social Complexity. The scarcity of strong effects indicated that the bias observed in the first analysis was not driven by any particular single country's standing out from the rest.

Different methods could be deployed to explore the country patterns of bias. One would be to identify in the analysis that included all countries the most strongly biased countries for each item. Then we could form—per item—groups of countries according to the direction of item bias, and compare these groups in an analysis of variance. A second possibility would be to group the countries based on known

country-level variables such as GDP and religion, applying the same grouping to all items. We chose the latter approach, because it offered two important and related advantages: firstly, by dealing with a common grouping for all items, we would be able to identify global patterns of bias which would be more generalizable than any single item–country combination; secondly, groupings based on country-level variables are the most theoretically relevant and would allow us to get a grip on the sources of bias at the country level, which is a central question of our study.

GDP We formed six groups of countries according to their 2004 GDP level (in US dollars): up to 3,800 (Georgia, India, Indonesia, Nigeria, and Pakistan), 4,700–6,000 (China, Lebanon, Peru, the Philippines, and Venezuela), 7,500–10,400 (Brazil, Iran, Malaysia, Romania, Russia, Thailand, and Turkey), 11,900–25,000 (Czech Republic, Estonia, Greece, Hungary, South Korea, Latvia, New Zealand, Portugal, and Spain), 26,500–32,200 (Belgium, Canada, Finland, France, Germany, Hong Kong, Israel, Italy, Japan, the Netherlands, Singapore, Taiwan, and the United Kingdom), and over 39,000 (Norway and the United States). We conducted analyses of variance in the same way as in the previous analyses, this time using GDP level (six levels) instead of country as independent variable.

The results are displayed in the third column of Table 5. The effect sizes of three items were at least 0.06: “Individual effort makes little difference in the outcome” (Social Complexity), “Good luck follows if one survives a disaster” (Fate Control), and “There is a supreme being controlling the universe” (Religiosity). Overall, higher GDP levels seemed to go with lower scores on all three items (see Fig. 1). This trend was most obvious for the first item, whereas in the second one, it was mainly the lowest GDP group that stood out, and in the third, the trend could be

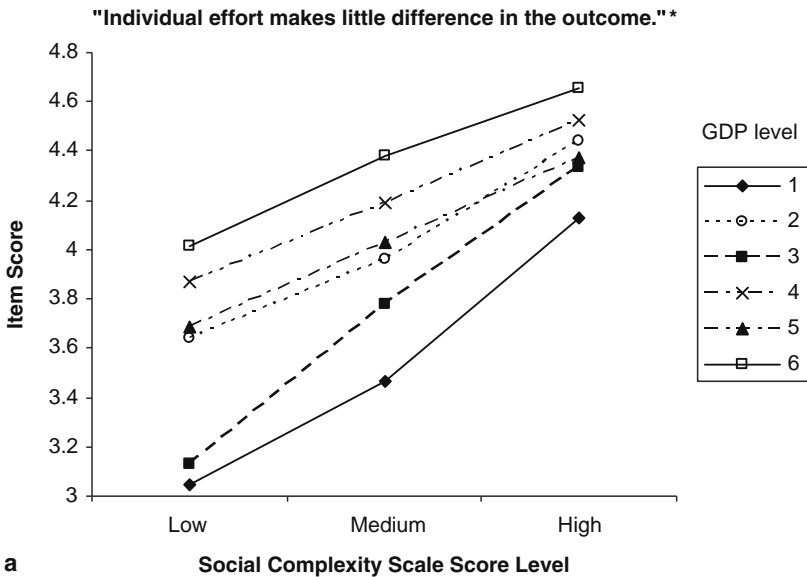


Fig. 1(a to c) Item scores of three items with medium effect sizes of bias by GDP

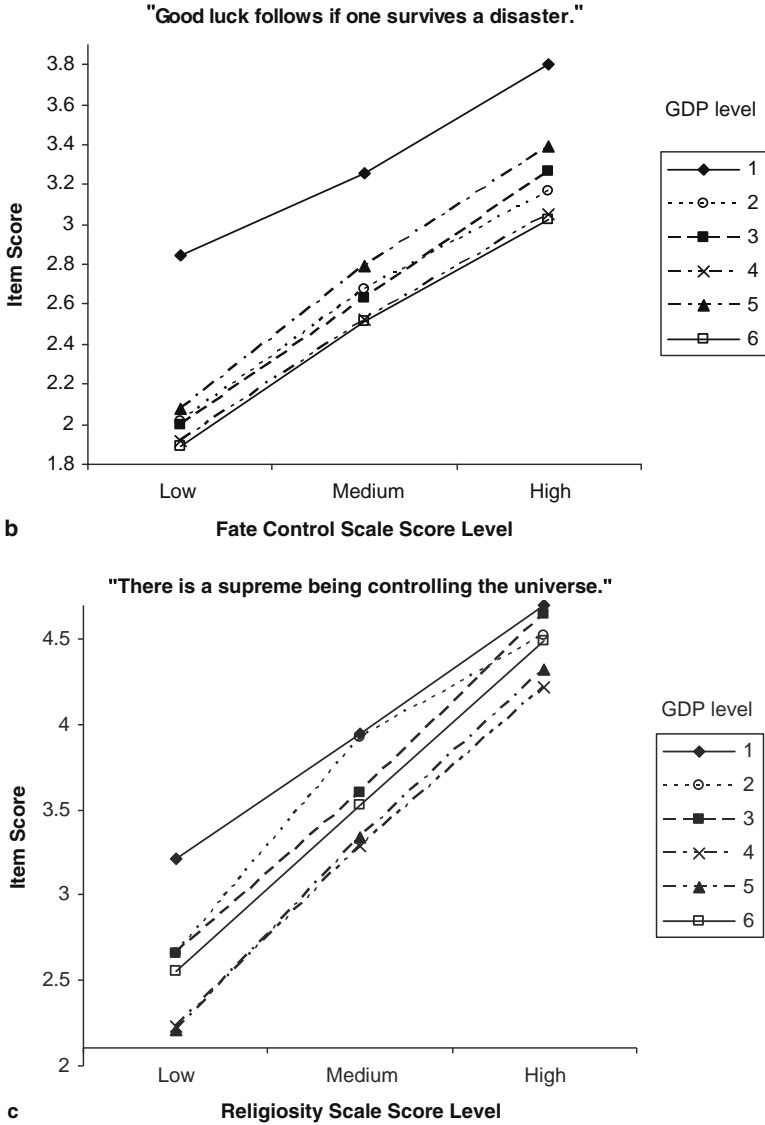


Fig. 1(a to c) (continued)

represented as approaching a U-curve. The countries in the highest GDP group (the United States and Norway) scored higher on this Religiosity item and closer to the intermediate GDP group than the two GDP groups below them. We assessed the association of GDP level with mean scores on these three items by means of rank order correlations: we correlated GDP level with mean item score. For all three items, correlations were substantial, with Spearman's ρ values of -0.89 , -0.60 , and -0.77 , respectively, although only the first was significant.

Religion The same classification in six religions was used as in the structural equivalence analysis; India and Israel were again excluded. We conducted analysis of variance in the same way as in the previous item bias analyses. The outcomes are presented in the last column on the right in Table 5. There were five items with medium effect sizes (see Fig. 2 for the specific trends per item). Firstly, Catholics and Protestants generally scored lower than the rest on “Females need a better appearance than men,” given the same level of Social Cynicism. Secondly, “Individual effort makes little difference in the outcome” received low scores in Catholic and Protestant countries and high scores in Muslim countries across levels of Social Complexity. Thirdly, Islam and, to a lesser extent, Buddhist countries scored consistently higher than the rest on “All things in the universe have been determined,” irrespective of

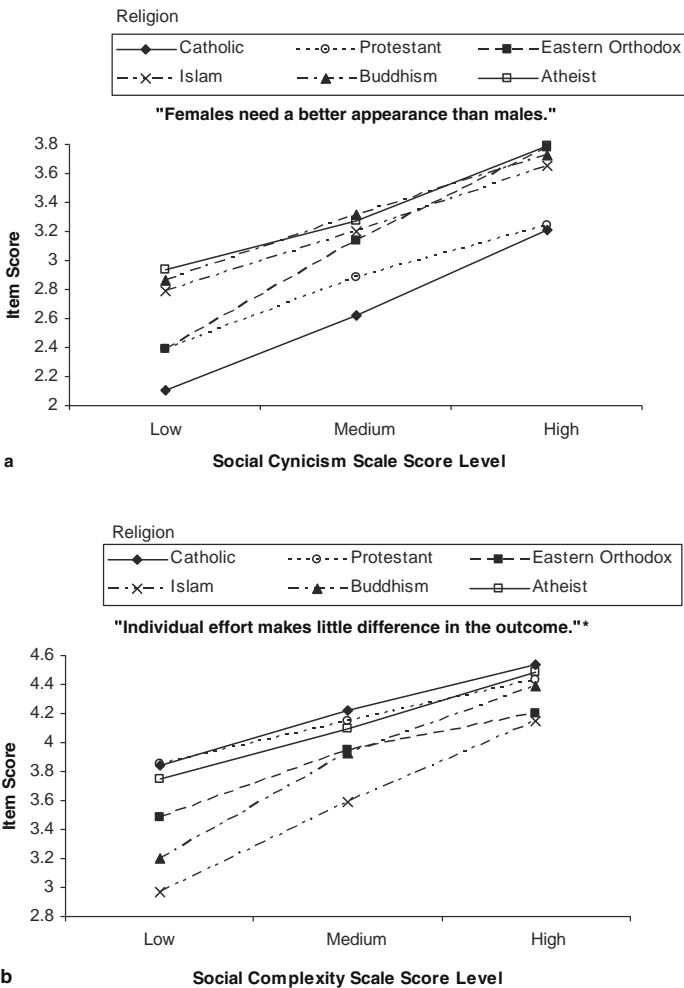


Fig. 2(a to e) Item scores of five items with medium effect sizes of bias by religion

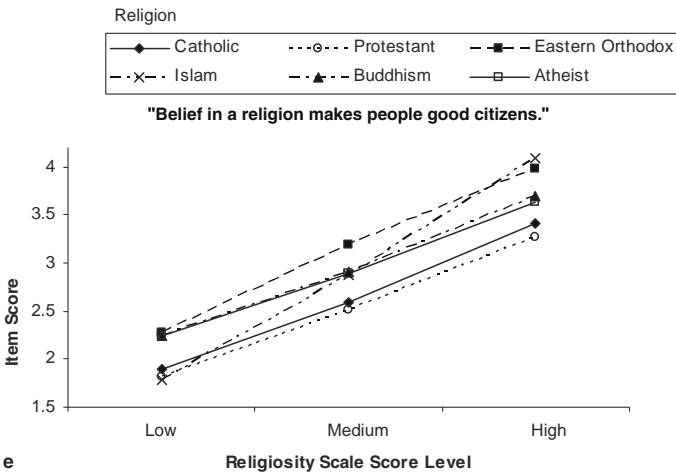
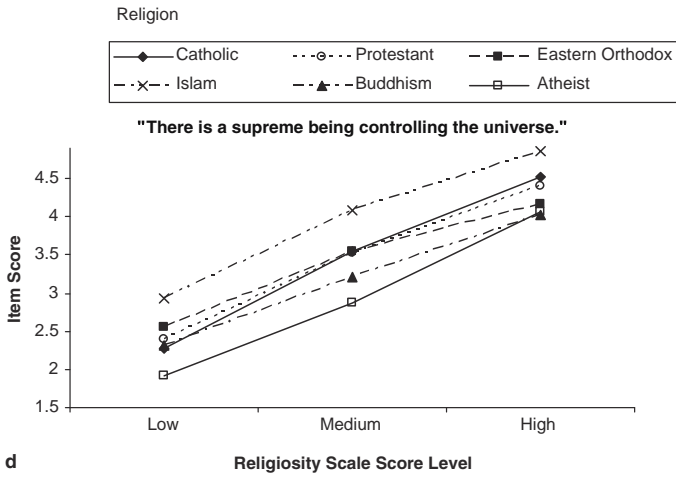
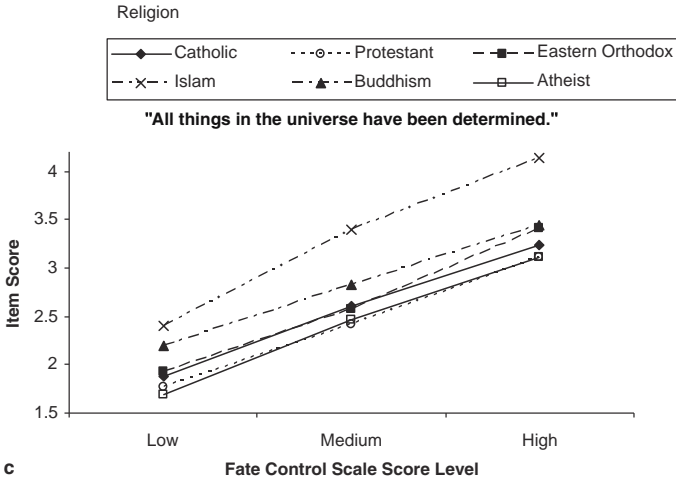


Fig. 2(a to e) (continued)

mean Fate Control. Fourthly, “There is a supreme being controlling the universe” received high scores in Islam countries and low scores in atheist and Buddhist countries, with the others falling in between, across all levels of Religiosity. Finally, the statement, “Belief in a religion makes people good citizens,” was endorsed more in Eastern Orthodox countries and less in Protestant and Catholic countries as compared to Buddhist and atheist countries. Muslim countries cut across the lines of the rest on this item: they had the lowest scores in the low Religiosity level group, and the highest in the high one. In sum, it seemed that, particularly for the above five cases, religion had a consistent, rather strong effect on the functioning of the items, regardless of their underlying dimensions.

Thirty-Nine Item Version Finally, we were interested in the question, to what extent our findings of item bias also hold for the subset of 39 pancultural items, proposed by Leung and Bond (2004). Out of the 49 biased items we had identified in the analysis by country, 29 are retained in the 39-item version. One of them was the item, “Good luck follows if one survives a disaster” (Fate Control), which had an effect size of 0.18. Out of the six items biased by GDP and/or religion, three are retained in this pancultural set.

To explore the reduction of bias in the 39 items more directly, we compared the means of their item bias indices to those of the remaining 21 items. We conducted such comparisons per scale (except for Religiosity, where only one item had been removed in the 39-item version) and for the Social Axioms Survey as a whole; we included in the comparison the item bias estimates by country, GDP, and religion (from Table 5). The mean bias estimates were lower in the 39 items; we tested the significance of these differences with *t* tests. The significance values are presented in Table 6. Only 6 differences out of 15 comparisons were significant at 0.05. These findings suggest that item bias is reduced in the 39 items, but not eliminated. The specific influences of GDP and religion seemed to remain clearly recognizable even after the removal of the 21 items.

In summary, there were indications for a widespread bias of the Social Axioms Survey items by country. For the most part, this bias could not be attributed to single countries but rather to groups of countries. Religion and economic development (as expressed by

Table 6 Significance levels of the differences between the mean item bias estimates of the 39 pancultural items of Leung and Bond (2004) and the remaining 21 items, estimated per scale and for the social Axioms Survey

Scale	<i>p</i> -value		
	Country	GDP	Religion
Social Cynicism	0.04	<i>ns</i>	0.09
Reward for Application	0.08	0.00	<i>ns</i>
Social Complexity	0.08	<i>ns</i>	0.03
Fate Control	<i>ns</i>	<i>ns</i>	<i>ns</i>
Social Axioms Survey	0.00	0.03	0.03

Note: The Country column is based on the analysis comparing all 41 countries. There are no values for the Religiosity scale, because only one item had been removed from it in the 39-item version.

GDP) were found to influence bias. The medium-high average effect size of item bias of 0.08 on the level of the Social Axioms Survey as a whole could be explained 26% by GDP and 29% by religious denomination (cf., bottom row of Table 5).

Synthesis

Various analyses were conducted to identify items and countries with deviant score patterns. The main conclusion of the analyses is that support for the equivalence of the scales across the 41 countries is moderate. Equivalence is not unequivocally supported for any scale. Yet, equivalence is not particularly poor for any scale either. The question was then addressed whether the bias and equivalence analyses yielded similar results. We explored the association between differential item functioning and the structural equivalence analyses by computing the correlation between the item bias effect sizes of country, on the one hand, and the root mean squared differences between the country loadings of each item and the loadings in the pooled solution, averaged across the five factors and across countries, on the other hand. The latter measures constitute aggregate factor-discrepancy terms of the items. As item bias indicators, we used both the combined effect sizes of country (first column of Table 5) and the effect sizes for the main effect of country (not presented here). When using the combined estimates, $r(60) = .24$, *ns*; when using the main effect sizes, $r(60) = .25$, $p = .05$. This analysis suggested that there is some association between structural inequivalence and item bias across items, but it is rather weak; there did not seem to be any sets of items clearly bringing about inequivalence and differential item functioning in tandem.

A recurrent problem in analyses of differential item functioning is the elusive nature of item bias. It is often not easy to identify the commonalities of biased items (e.g., Holland & Wainer, 1993). We tried to unpackage the meaning of item bias by using GDP and the main religious denomination of a country as moderators of item bias. We found that about one quarter of the item bias could be accounted for by each of these two factors; these factors were fairly independent.

Discussion

Social axioms provide an interesting way to study the social reality of individuals from different countries. The axioms are clearly different from norms and values and attitudes, and their relevance for understanding social behavior has been demonstrated in within-culture research (Bond et al., 2004a; Chen, Fok, Bond, & Matsumoto, 2006; Leung & Bond, 2004; Liem, Hidayat, & Soemarno, this volume), as well as cross-cultural research (Fu et al., 2004). The current chapter addressed the question to what extent social axioms, as measured by the questionnaire developed by the initiators of the project (Leung and Bond), are comparable across cultures.

Leung and Bond (2004) provided support for the structural equivalence of the factors underlying the questionnaire. The five scales (Social Cynicism, Reward for Application, Social Complexity, Fate Control, and Religiosity) were found to be reasonably equivalent across cultures. The present chapter examined this topic in more detail by applying different statistical techniques. We were interested in the question to what extent the 41-country data set can be seen as homogeneous with regard to the psychological meaning of the scales. Two methods were employed to examine the equivalence. The first is exploratory factor analysis. Equivalence is supported if factors found in different countries are similarly constituted. The second is item bias analysis. Equivalence is supported here if persons from different countries with the same total scores on a scale have on average the same score on each item of the scale.

The support for the equivalence of the scales was moderate; neither the exploratory factor analysis nor the item bias analysis provided indisputable support for the equivalence of any scale. We found that the equivalence of the scales was not bad, but it was not very good either. A more detailed analysis of the sources for the lack of equivalence showed problems with different items in different countries. It is not clear to what extent sample particulars, language issues, specific cultural issues, or procedures of administering the questionnaire and recording the responses might have played a role in the poor equivalence. It is clear, however, that the removal of some countries or some items would not resolve the equivalence issues we observed.

Probably the most important problem on item level was the presence of secondary loadings, which means that these items measure not only their intended constructs, but also tap other social axioms. The best example is the item, "Humility is dishonesty," which was apparently interpreted in different manners by the participants. Various items showed secondary loadings on the Religiosity scale. Our analysis suggests that religiosity is an important domain of social axioms that might cover a broader array of beliefs than in its initial conceptualization. Besides the belief in a supreme being and the reference to beneficial functions of religious belief in people's lives, religiosity seems to involve also other theological issues, such as the belief in a just world and beliefs about nonmaterial causes of events in the everyday world.

In our view, three main conclusions can be derived from our study. Firstly, social axioms show important similarities across cultures. Although our equivalence analyses indicated that there were various minor sources of discrepancies across cultures, we did not find any consistent evidence for the presence of different ways of construing the social world in different cultures. Secondly, numerical comparisons of scores obtained in different countries have to be treated with caution. There is a fair chance that due to the incomplete equivalence, the validity of these comparisons is challenged and that nonintended factors, such as other social axioms or other cross-cultural differences in norms, values, or attitudes, contaminate scores of all scales. Thirdly, the observed bias may be a consequence of both item and country characteristics; level of economic development as well as religious denomination were predictors of bias at the item level.

It is common in the literature to focus on instrument characteristics in the analysis of bias and equivalence. On the other hand, our analyses clearly indicated that a more balanced treatment is needed to account for both instrument and country characteristics that lead to bias. For example, we found that there are certain problematic items that should be removed if the aim of the study was to maximize equivalence. Nevertheless, the removal of some countries may also lead to higher levels of equivalence. The psychometric techniques for identifying bias and determining equivalence lack this balanced perspective. The one-sidedness of bias analysis may not be important if the cross-cultural study involves a small number of countries. However, if the number of countries is large, as in the present study, it is counter-productive not to look for country as a source of bias and to exclude the possibility that a different model would hold in some countries. Leung and Bond (2004) have encouraged researchers in any country or given subset of countries to conduct their own analyses of the axioms matrix in order to identify these relevant factor structures.

The question can be asked whether our finding that so many items are biased invalidates previous publications. It may seem impossible to combine our bias analyses with the findings that many individual and country-level characteristics show meaningful associations with social axioms. In our view, these two findings are compatible. Item bias points to the presence of sources of variation at item level other than the target construct measured by the scale (e.g., an item may measure acquiescence in addition to social cynicism). However, the presence of such bias does not imply that country-level differences in scores are entirely accounted for by acquiescence but rather that these differences are influenced, for example, both by social cynicism and acquiescence. Correlations with country characteristics are affected by item bias, but as long as the item bias is not substantial, country differences in item means may still largely reflect social cynicism.

There is an increasing number of large-scale studies in which structural equivalence and/or item bias have been determined; examples are studies of leadership and management styles (House, Hanges, Javidan, Dorfman, & Gupta, 2003), values (Fontaine, 1999), personality (Barrett, Petrides, Eysenck, & Eysenck, 1998; McCrae et al., 2005), and family roles and functions (Georgas et al., 2006). Based on the experiences obtained in these projects, we see both strengths and weaknesses in statistical procedures for identifying bias and their usage. The main strength of the procedures is their statistical rigor. It goes without saying that support for the absence of bias is required before any cross-cultural score comparison can be made. Another advantage of these techniques is that they identify and quantify problematic features of the data set. An examination of the equivalence makes clear which items or factors show bias.

We also see two weaknesses in these procedures. The first issue is what could be called a power problem. Some statistical techniques seem to be overpowered for their purpose. A straightforward application of significance criteria in the current study would have led to the conclusion that *all* items were biased. However, an inspection of the effect sizes indicated that many items showed small amounts of bias. The same problem of finding significant, though psychologically trivial, cross-cultural differences in large data sets is also often troubling for multigroup structural equation modeling.

The second weakness involves the elusiveness of the sources and nature of bias and inequivalence. It is a recurrent problem in bias and equivalence analysis that the commonality underlying problematic items or factors is difficult to find. We observed the same problem in the present study. Different procedures have been proposed in the literature to deal with this problem: Scheuneman (1987), Kok, Mellenbergh, and Van der Flier (1985), and more recently Schilt-Van Mol and Vallen (2006) tried to manipulate item contents so as to decrease the bias in cognitive items. The present study adopted a different approach and attempted to unpackage bias by examining the role of specific country-level variables, such as level of economic development and religious denomination, as sources of bias. The reduction of bias after the introduction of these country-level variables provides an estimate of their relative contribution to the bias.

What are the implications of our study for the analysis of large-scale cross-cultural projects? The first is that there is a need for examining cross-cultural equivalence. These examinations will give insight about the etic and emic aspects of the constructs measured. Equivalence is not an intrinsic feature of a data set but a characteristic of a cross-cultural comparison. As a consequence, it is important to address the issue in each and every comparison. The second implication is that bias and valid score differences can occur at the same time. If there is some item bias or if some items have higher loadings in some countries, observed country differences in mean scores are confounded by this bias. This does not imply that country-level differences are entirely due to bias but that they are a mixture of valid and artifactual differences.

The present chapter described and applied a bias detection procedure that can be useful in various large-scale cross-cultural studies. There appears to be some reluctance in reports of such studies to address bias, possibly because of the idea that bias analyses belittle the value of a study. This reluctance is based on a one-sided interpretation of bias. In our view, it is unrealistic to expect that studies involving dozens of countries do not show any bias. It is unlikely that in the long lists of items we like to present to our participants, all words and concepts convey the same denotative and connotative meaning across all cultures.

The absence of any bias analysis does not mean that there is no bias in a data set, whereas an analysis of the bias gives us clues as to the extent of bias. Therefore, it is a sign of strength and not of weakness to examine the presence of bias in cross-cultural data sets. Moreover, bias analyses can reveal interesting cross-cultural differences. Finding that a concept has a different meaning in a culture can be an interesting starting point for further study.

Bias and substantive analyses are often seen as aiming at incompatible goals, with bias analysis aiming at the removal of “wrong” items and the substantive analyses aiming at exploring “correct” items. We think that both kinds of analyses are highly compatible and that bias *and* substantive analyses explore or test cross-cultural similarities and differences. Many hypotheses about cross-cultural differences that we test in substantive analyses can be couched in terms of bias. For example, item bias analyses address the question of item score differences holding overall scores on the instrument constant. However, “holding all other variables

constant” is also a kind of reasoning that we often employ in testing substantive hypotheses, such as in regression analyses in which we study the direct relation between variables controlling for all other variables. In conclusion, the analysis of bias and substantive analyses should be thought of as much more compatible and complementary than is usually assumed.

The present chapter indicates that there are important cross-cultural commonalities in the structure of social axioms. However, our study also shows that measurement issues are still not completely resolved, and it may well be the case that there are also sources of culture-specific features in social axioms. The finding of Bond et al. (2004b) that social axioms are more strongly correlated at the country level than at the individual level also indicates that both the conceptualization and measurement of social axioms need further study to better understand the individual and cross-cultural differences we observe.

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Exploring Ethnic Group and Geographic Differences in Social Axioms in the USA

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Abstract This study investigates the dimensionality of a recently developed measure of social beliefs—the Social Axioms Survey (SAS) for American respondents. Ethnic group and geographical differences in the endorsement of social beliefs were also assessed with the SAS with samples of college and noncollege students in eight locations in the USA ($N=2,164$). Results of exploratory and confirmatory factor analyses supported the five-factor structure found previously in international samples (Leung & Bond, 2004). Differences among ethnic groups showed that African Americans scored higher on the belief dimension of religiosity than did Asian or Caucasian Americans. Asian Americans were more inclined toward socially cynical beliefs than were other ethnic groups and believed more in fate control than did Caucasian or Hispanic Americans. Differences in social beliefs across locations were limited to religiosity beliefs when only Caucasian American respondents were considered. Implications for comparisons of samples from the USA with other countries are discussed.

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A persistent problem in cross-cultural research has been finding ways to describe cultures in ways that allow for comparison among them. The most common cultural comparison uses the individualism–collectivism dimension (IC) (Hofstede, 1980; Triandis, 1995) and self-construal as the individual-level or psychological indicator (Markus & Kitayama, 1991; Singelis, 1994). Among all the dimensions available, none has generated the research that has accrued to the IC dimension (see Oyserman, Coon, & Kemmelmeier, 2002 for a review and critique). In an effort to add to the cultural dimensions available to scholars wishing to compare and understand cultures, an SAS was recently developed (Leung et al., 2002). The dimensions identified in the survey are based on beliefs rather than values or self-construals.

The results of this initial study suggested that five social axioms factors may be universal: Fate Control, Reward for Application, Cynicism, Religiosity, and Social Complexity. The pan-cultural dimensionality was confirmed in a larger, subsequent study (Leung & Bond, 2004). The purpose of the current study was to explore ethnic group and geographical variations in social beliefs with the SAS in a population from the USA. In addition, we sought to assess the dimensionality of the SAS in this population with a large enough sample to ensure the stability of the factor structure obtained.

Values and Beliefs

One of the most widely cited systems for describing cultures is Hofstede's (1980) four-dimensional framework based on work-related values in 40 countries. Of the four original dimensions (individualism–collectivism, masculinity–femininity, power distance, and uncertainty avoidance) only individualism–collectivism has been widely used as a theoretical framework. The Chinese Culture Connection (1987) conducted a study based on Eastern values in which they added a distinctive dimension, "Confucian Work Dynamism" (now called "long-term orientation"), to Hofstede's original four. Another widely recognized system of cultural dimensions comes from Schwartz (1992, 1994), who researched 41 cultural groups from 39 nations, establishing a mapping of cultures along seven culture-level domains of values.

Although the value perspective has been influential, there need to be additional dimensions by which we can understand cultural variations. According to Leung et al. (2002) additional frameworks serve two purposes: "They may yield information about cultural variations that cannot be detected by the value perspective and/or they may provide needed triangulation for well-known results based on values." (p. 287)

In addition to previous constructs studied by cultural scholars, general beliefs may serve as a complementary framework to values, since beliefs have been shown to relate to a variety of social behaviors (Fraser & Gaskell, 1990; Furnham, 1988). For example, researchers have found that beliefs are related to moral reasoning and moral conduct (Brody & Shaffer, 1982). Locus of control, a general belief about

the cause of events that happen to oneself, has been shown to relate to a variety of behaviors (e.g., Spector, 1982). Trustworthiness, a general belief about human nature, has been related to various interpersonal behaviors (Wrightsmann, 1992).

Social Axioms Survey

We shall not discuss the background of the Social Axioms Survey at length since this material is covered well elsewhere in this volume. Briefly, Social Axioms are generalized beliefs about personhood, the social and physical environment, or the spiritual world. Social beliefs are instrumental in coping with problems of survival and effective functioning, and the dimensions across which beliefs vary should be universal and identifiable in different cultural groups and serve the four major functions of attitudes: “They facilitate the attainment of important goals (*instrumental*), help people protect their self-worth (*ego defensive*), serve as a manifestation of people’s value (*value-expressive*), and help people understand the world (*knowledge*)” (Leung et al., 2002, p. 288).

A scale based solely on belief statements was constructed by Leung et al. (2002). Using data collected in Hong Kong, Venezuela, USA, Germany, and Japan five factors were established: Social Cynicism: items representing a negative view of human nature and social relations; Reward for Application: items representing a general belief that effort, knowledge, and careful planning will lead to positive results; Social Complexity: items declaring that there are no rigid rules, but rather multiple ways of achieving a given outcome, and that inconsistency in human behavior is common; Fate Control: items represent a belief that life events are predetermined and that there are ways for people to influence these outcomes; and Spirituality (later renamed Religiosity): items that refer to the reality of supernatural forces and the attest to the positive functions of religion (Leung et al., 2002).

Additional studies have supported both the structure and the validity of these original five dimensions of social beliefs (Leung & Bond, 2004; Singelis, Hubbard, Her, & An, 2003).

Ethnic Variations in the USA

A body of research provides evidence for ethnic variations within the USA on cultural dimensions, although the work in this area is neither systematic nor conclusive (see Oyserman et al., 2002). For example, Asian Americans were significantly higher than European Americans in collectivism (Singelis, Triandis, Bhawuk, & Gelfand, 1995) and were more interdependent and less independent than Euro Americans (e.g., Singelis, 1994; Singelis & Brown, 1995).

Research has also suggested that there are other differences between Euro Americans and African Americans (Baldwin & Hopkins, 1990; Jones, 1988; Triandis, 1994). Euro Americans are more concerned with what they own as a deter-

minant of identity (e.g., “I am a student”), whereas African Americans emphasize what they express in personal style and movement and “how I appear to others” (Triandis, 1994). African American culture can be best described as emphasizing spirituality, harmony with nature, present orientation, expressiveness, and collectivism (Boykin, 1983; Jones, 1988). Conversely, Euro Americans have been described as materialistic/mechanistic, future orientated, controlled in expression, individualist, and high achieving. For a more extensive discussion of African and Euro American differences see Jones (1988) and Boykin (1983). At the same time, Majors and Mancini-Billson (1993) argue that African Americans have internalized the white male values of self-reliance and economic success, despite structural barriers, and thus differences in beliefs about reward for application may be small.

Regional Variations in Cultural Dimensions

Using data aggregated by state, Vandello and Cohen (1999) created a collectivism index to measure the differences of individualism and collectivism among the 50 American states. The final index consisted of eight factors relating to family structure, living arrangements, social, political, religious, and economic practices. The 50 states were aggregated into nine cultural regions: Confederate (Deep) South; Peripheral South; Northeast; New York and New Jersey; Midwest and Great Lakes; Mountain West and Great Plains; Southwest; Utah; and Hawaii. Significant regional differences were found in the state-level collectivism index. Hawaii was more collectivist than all other regions; the Mountain West and Great Plains region were more individualist than all other regions; and the Deep South was significantly more collectivist than the Mountain West and Great Plains, the Great Lakes and Midwest, and the Northeast. Although past research has characterized the USA as particularly high on individualism, the results of Vandello and Cohen (1999) suggest that there are regional variations in psychological collectivism within the USA corresponding to these state-level differences in collectivism. Given these findings, it is expected that social beliefs will vary by region.

Method

Participants

A total of 2,164 students and nonstudents from eight locations in the USA participated in the study. There were more students (1,274) than nonstudents (886) and more women (1,166) than men (979). Four participants did not report their student status and 19 did not indicate their sex. Age was reported in categories: less than 20 (753 or 34.8%); 21 to 30 (755 or 34.9%); 31 to 40 (170 or 7.9%); 41 to 50 (307 or 14.4%); 51 to 60 (131 or 6.1%); and 60 and over (46 or 2.1%). Two

Table 1 Distribution of ethnic backgrounds

Ethnic background	Frequency	Percent
Black	59	2.7
African American	48	2.2
Caucasian	1,416	65.4
Chinese	130	6.0
East Indian	18	0.8
Fillipino	41	1.9
Hawaiian	10	0.5
Hispanic	41	1.9
Japanese	96	4.4
Korean	37	1.7
Latino/a	18	0.8
Mexican	24	1.1
Native American	7	0.3
Puerto Rican	17	0.8
Samoan	4	0.2
Vietnamese	14	0.6
Other	168	7.8
Missing	18	0.8
Total	2,164	100

participants did not indicate their age. The majority of participants self-identified as Caucasian, constituting 65.4% of the sample, although other people from other groups described themselves by using a variety of identifications (see Table 1).

Instruments

Social Axioms Survey Because this study was conducted early in the development of the SAS (Leung et al., 2002), an 82 item version of the scale was used and included interpersonal harmony items. Five-point, Likert-type response formats were anchored by “strongly disbelieve” and “strongly believe.”

Demographic Items In addition to the scales, demographic probes were also included. The respondents were asked to list: age group, sex, education, and occupation. Another section asked additional questions about the respondent’s background, such as ethnicity, place of residence, birth-place, political affiliation, and religion.

Procedure

The Survey was administered in eight different locations: Chico, California; Lawrence, Kansas; College Park, Maryland; Los Angeles, California; New York, New York; Melbourne, Florida; Honolulu, Hawaii; and Urbana-Champaign, Illinois. The survey, which contained a battery of instruments, took approximately 30 min

to complete. Some of the student participants received extra credit for their participation. Some of the nonstudent participants were recruited through a snowball technique where student participants collected data from nonstudents.

Results

Structure of Social Axioms

To determine if the structure of the SAS was similar to that found previously, a two-step process was undertaken. The 82 social axioms items were first submitted to an exploratory factor analysis with half the sample, and then a follow-up confirmatory factor analysis was undertaken with the remaining half.

Exploratory Factor Analysis Half of the sample ($n=1,084$) was randomly selected for the principal components analysis of 82 social axioms items using a varimax rotation. Based on the scree plot, a six-factor solution accounting for 28.20% of the variance was chosen. Items were examined for their fit. Criteria for item selection were a primary loading of at least 0.35 and a secondary loading less than 0.20. No items composing the sixth factor met these criteria, so the final exploratory analysis yielded 40 items on 5 factors (see Table 2 for items and factors). It should be noted that the sixth factor that was dropped due to insufficient item loadings was predominantly made up of interpersonal harmony items. These data support the elimination of this factor in the development of the final SAS.

Confirmatory Factor Analysis The cases not used in the exploratory analysis above were used for the confirmatory analysis ($n=1,080$) by EQS version 5 (Bentler, 1995). Items were set to load exclusively on the factors designated in the exploratory analysis. Factors were set to be uncorrelated. The chi-square was significant (2,459.27 with 725 df , $p < .001$). Goodness-of-fit indexes were moderate (Bentler-Bonnett normed fit = 0.71; Lisrel adjusted goodness of fit = 0.87). The standardized root mean square residual was acceptable (0.059) and the root means square error of approximation was quite good (0.047) with a 90% confidence interval of 0.045 to 0.049 (see Hu & Bentler, 1999). All items loaded significantly on their designated factors. See Table 2 for item loadings.

We concluded that the five-factor solution is a good representation of the social axioms data in our American sample. Items on each factor were averaged to give scores for each dimension of beliefs. The CFA and the lack of substantial correlations between the dimensions indicate that these are distinct dimensions. See Table 3 for correlations across dimensions and alpha coefficients.

Variations in Social Axioms

Sex Differences A MANOVA was used for this and all of the following analyses due to the small, but significant, correlations between the social axioms dimensions

Table 2 Social axioms items with CFA factor loadings

	CFA loading
Factor 1: Cynicism $\alpha = .77$	
1. Power and status make people arrogant	0.61
2. Powerful people tend to exploit others	0.57
3. Kind-hearted people are easily bullied	0.50
4. People will stop working hard after they secure a comfortable life	0.49
5. Too much money ruins one's character	0.47
6. Kind-hearted people usually suffer losses	0.47
7. Caring about societal affairs only brings trouble for yourself	0.47
8. Old people are usually stubborn and biased	0.44
9. People deeply in love are usually blind	0.44
10. It is rare to see a happy ending in real life	0.39
11. It is hard to make friends with people who have different opinions from yourself	0.39
12. Young people are impulsive and unreliable	0.37
13. If one belongs to a marginal group, it is difficult to gain acceptance from the majority group	0.27
Factor 2: Religiosity $\alpha = .81$	
1. Religious faith contributes to good mental health	0.77
2. Belief in a religion helps one understand the meaning of life	0.76
3. There is a supreme being controlling the universe	0.67
4. Belief in a religion makes people good citizens	0.58
5. Religious people are more likely to maintain moral standards	0.54
6. One feels safer in the world through a belief in a supreme being	0.49
7. Religion makes people escape from reality	-0.45
8. After life on earth, one carries on an existence in another form	0.41
9. All things in the universe have been determined	0.40
Factor 3: Reward for Application $\alpha = .61$	
1. Honesty is a pre-requisite for a happy life	0.54
2. One will succeed if he/she really tries	0.51
3. Hard working people will achieve more in the end	0.51
4. A harmonious family life leads to career success	0.43
5. Knowledge is necessary for success	0.41
6. Every problem has a solution	0.37
Factor 4: Social Complexity $\alpha = .63$	
1. True partnership can only exist when there is mutual respect	0.61
2. A pleasant interpersonal environment and a sense of well-being lead to better performance	0.49
3. Human behavior changes with the social context	0.46
4. One has to deal with matters according to the specific circumstances	0.42
5. A modest person can make a good impression on people	0.39
6. One's behaviors may be contrary to his or her true feelings	0.37
7. People may have opposite behaviors on different occasions	0.36
Factor 5: Fate Control $\alpha = .58$	
1. Fate determines one's successes and failures	0.53
2. Good luck follows if one survives a disaster	0.51
3. Individual characteristics, such as appearance and date of birth, affect one's fate	0.46
4. There are certain ways to help us improve our luck and avoid unlucky things	0.40
5. There are many ways for people to predict what will happen in the future	0.34

Table 3 Correlations and alphas

Social axioms dimension	1	2	3	4	5
1. Cynicism	0.77				
2. Religiosity	0.01	0.81			
3. Reward for Application	0.04	0.27***	0.61		
4. Social Complexity	-0.01	0.08**	0.27***	0.63	
5. Fate Control	0.27***	0.07**	0.10***	-0.02	0.58

Note: Significance levels are: 0.01**, 0.001***.
Reliabilities are reported on the diagonal.

(see Table 3). A significant Wilks' Lambda for sex was found ($F [5, 1996]=11.97$, $p<.001$). Between-subjects' effects indicated that men ($M=2.72$) were more socially cynical than women ($M=2.58$) ($F=7.73$, $p<.001$, $d=.28$), while women ($M=3.31$) reported higher beliefs on the religiosity dimension than men ($M=3.17$) ($F=8.94$, $p<.001$, $d=.20$). Women ($M=4.11$) were also higher in social complexity than men ($M=4.06$) ($F=1.45$, $p<.01$, $d=.13$). No differences in reward for application or fate control were found. Due to the power of such a large sample to make small differences significant, effect sizes are noted above and in analyses that follow. The sizes of these sex differences (d from 0.13 to 0.28) are relatively small (Cohen, 1988). In subsequent analyses possible interactions with sex were checked and none were found.

Differences by Ethnic Group To investigate the effects of ethnicity on social beliefs another MANOVA was performed with self-reported ethnicity as the independent variable. Because there were many groups represented (see Table 1) and we wanted to keep the groups large enough for statistical power, data were collapsed across some groups *after first checking* to determine if differences in their social beliefs existed. No differences were found between subjects self-identifying as Chinese, Japanese, Korean, and Vietnamese, so they were combined to form an Asian group ($n=300$). No differences were found between participants who self-identified as African American or Black, so they were combined as well ($n=99$). Finally, no differences were found between those self-identifying as Hispanic, Latino/a, Mexican, or Puerto Rican, so they were combined into a Hispanic group ($n=89$). The last group in this analysis is those who identified themselves as Caucasian ($n=1,336$). It should be noted that the combining of groups for the current analysis in no way implies that they are equivalent or culturally identical in ways other than their social beliefs as measured in this study.

Wilks' Lambda for ethnic group was significant ($F [15, 5013]=10.59$, $p<.001$). Between-subjects' effects indicated that ethnic group was significant for all of the social axiom dimensions except social complexity: religiosity $F (3, 1820)=6.33$, $p<.001$, $R^2=.01$; fate control $F (3, 1820)=18.80$, $p<.001$, $R^2=.03$; reward for application $F (3, 1820)=4.77$, $p<.01$, $R^2=.008$; and social cynicism $F (3, 1820)=33.63$, $p<.001$, $R^2=.053$. Post hoc analyses using Tukey's Honest Significant Difference tests with significance level set at 0.05 were done to determine the significant difference between the four ethnic groups. Means for

Table 4 Means by ethnic group

Ethnic Group	Religiosity	Reward for Application	Social Complexity	Fate Control	Cynicism
African American ($n=99$)	3.49 ^b	3.75 ^a	4.08 ^a	2.62 ^{ab}	2.70 ^a
Asian American ($n=300$)	3.18 ^a	3.77 ^a	4.10 ^a	2.79 ^b	2.88 ^b
Caucasian ($n=1,336$)	3.22 ^a	3.65 ^a	4.10 ^a	2.50 ^a	2.57 ^a
Hispanic American ($n=89$)	3.36 ^{ab}	3.76 ^a	4.15 ^a	2.56 ^a	2.62 ^a

Note: Means within columns that have the same superscript are not significantly different by Tukey HSD post hoc tests ($p < .05$).

the ethnic groups are reported in Table 4. Briefly, African Americans reported higher Religiosity than Asian Americans and Caucasian Americans, but did not significantly differ from Hispanic Americans. Asian Americans were more likely to believe in Fate Control than Caucasians or Hispanics, although the Asian group did not differ from the African Americans. Finally, Asian Americans scored higher on the Social Cynicism dimension than the other three groups who did not differ. Readers should note that although the analysis of variance for reward for application showed a significant effect for ethnic group, the post hoc Tukey HSD test, which uses the harmonic mean of the unbalanced group sizes, returned the result of no differences between the groups.

Regional Differences Data were collected in a number of locations, but many of the participants in each location were not native to that location. Because cultural transmission takes place during the socialization process, we reasoned the best test of regional culture would be to compare people who were born and raised in a particular place. Drawing on the demographic data collected, we selected those who reported having been born and raised in the same state. Overall there were 1,483 who fit this criterion. To have sufficient power to detect differences, we eliminated people from states having fewer than 100 participants who were born and raised there. We were left with 1,017 participants from five states: California ($n=255$), Hawaii ($n=124$), Illinois ($n=213$), Kansas ($n=149$), and New York ($n=276$). However, given the prior analysis of ethnicity and the fact that ethnic group was confounded with states where participants were born and raised ($\chi^2(12)=572.64, p < .0001$), we decided to use only those who self-identified as Caucasian in our analysis of variation across location. This further restriction resulted in participants from the following states being included in the current analysis: California ($n=174$), Illinois ($n=183$), Kansas ($n=135$), and New York ($n=207$).

A MANOVA was performed with state as the between-subjects' variable. Wilks' Lambda for state was significant in this analysis ($F [15, 1908]=2.58, p < .001$). Between-subjects' effects indicated that state was a significant effect *only* for the dimension of Religiosity, $F (3, 695)=8.30, p < .001, R^2 = .03$. Post hoc analysis with Tukey's Honest Significant Difference test ($p < .05$) revealed that participants from California scored lower on the religiosity dimension than those from Kansas and Illinois.

Discussion

This study sought to establish the dimensionality of the SAS in the USA, and to explore ethnic group and geographic differences in social beliefs. The data from the two factor analyses offer support for the five-factor model of social axioms in the USA. The low inter-factor correlations further support the independence of these five dimensions. One problem that remains is the relatively low reliabilities of some dimensions. The lack of strong internal consistency has been a persistent problem with measures of cultural difference (see Oyserman et al., 2002). Nonetheless, all items contributed significantly in the confirmatory factor analysis.

The SAS was born of, and is primarily intended for, cross-cultural/cross-ethnic studies, so the breadth of the items allows sufficient range to provide validity in cultural systems with somewhat different emic aspects. In other words, what is sacrificed in internal consistency increases the range of items, making them more appropriate for measuring the construct in a variety of cultures (see Singelis et al., 1995). Still, those wishing to use this instrument may wish to explore the possibility of adding additional items in a given cultural setting to bolster the internal consistency of the belief dimensions measured.

A second purpose of this study was to explore ethnic differences. It must be noted that the differences between ethnic groups that were found, although significant, had small effect sizes. Even though the effect sizes were small, they support the ability of the SAS to detect cultural differences and indicate that this new measure may prove useful as an additional tool for scholars wishing to explore cultural variation. Overall, we found ethnic differences on four of the five dimensions, although conservative post hoc analyses revealed significant differences in only three. Specifically, social cynicism, endorsing a negative view of human nature and social institutions, varied between the groups—Asian Americans being more cynical than Caucasian Americans, Hispanic Americans and African Americans who did not differ. Consistent with past research (e.g., Grantham, 1994; Reed, 1972, 1983), African Americans held stronger beliefs about religion than Asian Americans and Caucasian Americans, but did not significantly differ from Hispanic Americans. Asian Americans, who did not differ from the African Americans, were more likely to believe in fate control than Caucasian or Hispanic Americans. One speculation is that this result points to the influence of East Asian religions such as Confucianism and Buddhism on Asian Americans (Slote & De Vos, 1998). Certainly an unsophisticated understanding of the concept of *karma*, although more germane to the Hindu religion, might lead to the belief that aspects of one's life are predetermined. It may also be that the experience of immigration, which is common among Asian-American families, has contributed to this sense of fate control. Confirming Asian-American belief in fate control and exploring its source are areas in need of additional research.

Some might speculate that more than cultural influences, political and power factors should affect people's social beliefs. In other words, a person who is a minority, as opposed to a member of the dominant group, might tend to be more

socially cynical and to believe more in fate control because of their relative powerlessness in the social and political order. Minority status might also affect one's belief in reward for application, although one could make a good argument in either direction. On one hand, a minority person might believe that barriers are too great and that application makes no difference. On the other hand, a different minority person may see the same barriers and believe that the only way to overcome them is to apply one's self, a strategy that will then be rewarded. To examine these highly speculative ideas, data were collapsed into dominant (Caucasian Americans) and minority (Hispanic and African Americans) groups. Asian Americans were not used, since most in this sample were from Hawai'i where Asians are not a minority. Analyses showed that the minority group was, in fact, higher on the dimensions of Social Cynicism, Fate Control, and Reward for Application, although the differences were quite small. It would be interesting to do some qualitative analyses to determine the relative influences of culture and minority status on social beliefs. While there may be a combination of influences for a given individual, it seems more likely that the social beliefs of some individuals are highly influenced by their cultural background and socialization, while the beliefs of others are highly influenced by their minority status and the experiences associated with it.

It was expected that individuals in different locations would differ in their social beliefs. This expectation was largely unfulfilled. Due to the unbalanced distribution of ethnic groups and birthplaces in the samples, an analysis was undertaken in which ethnicity was restricted to Caucasian and the location was designated as the place where subjects were born and raised. In this analysis, Religiosity was the only social belief that differed across location, and that difference was limited to those in California scoring lower on religiosity than participants from Illinois and Kansas. Overall these analyses lead to the conclusion that there is a general agreement in social beliefs among Caucasians in our sample, no matter where they were born and raised in the USA.

Importantly, this finding contrasts with the results of Vandello and Cohen (1999). Regional variations may occur when accounting for their operationalization of collectivism, but we have found little empirical support for variation in social beliefs. The emphasis in Vandello and Cohen (1999) was on data defined at the state level, whereas data in the current study are analyzed at the individual level. This difference points to the possible discrepancy between ecological and individual-level correlations, an issue in the study of beliefs addressed by Leung and Bond (2008). Another factor that may have contributed to our failure to find regional differences is the fact that we did not include a sample from the Deep South in our analysis. We sampled in Florida, but when we took into account where people were born and raised, that state dropped out of the analysis. Since the Deep South seemed to be the most different mainland region in the Vandello and Cohen (1999) study, it may be that there are differences in social beliefs in that region not measured in the current study. Further, it should be noted that many other locations sampled in Vandello and Cohen (1999) were not considered in the present study.

Taken together, the results validate the SAS and are consistent with research demonstrating its dimensionality and sensitivity to cultural differences (Bond, 2001;

Leung et al., 2002). The SAS has already proven to be a useful tool in predicting behaviors from beliefs in Hong Kong (Bond, Leung, Au, Tong, & Chemonges-Nielson, 2004). We believe that it will also prove useful in the USA. For instance, further research may be conducted to determine how these five dimensions affect helping behavior, job preferences, or child rearing practices.

Although there were few significant regional variations in social axioms within the USA when ethnicity was controlled, there are some implications that may be drawn from the results. We suggest that there may be a uniformity of social beliefs among Caucasian Americans in the USA. This fact has implications for scholars comparing the results of a single sample from the USA with a sample from another country, as is common in cross-cultural research. If, as indicated here, there is a mostly uniform culture among Caucasian Americans in the USA, such single-sample comparisons may be warranted regardless of where in the USA the sample is drawn.

However, researchers must take care in ensuring that ethnicity in the USA sample is controlled. On the other hand, one may argue justifiably that a homogeneous sample which controls ethnicity is not representative of the USA. This tension raises the question of who are we talking about when we say, for example, Americans are more individualistic than Koreans? Scholars must consider their answer carefully when engaging in cross-cultural comparisons.

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Social Axioms among Malay, Chinese, and Kadazan Students in Sabah, Malaysia: Differences in Gender and Ethnic Groups

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Abstract Social axioms are generalized beliefs about other people, the social environment, or the spiritual and physical world, and are central to a person's belief system. Their function is to enhance the survival and functioning of the person in his/her social and physical environment. This study examined social axioms among Malay, Chinese, and Kadazan psychology students enrolled in the School of Psychology and Social Work at the Universiti Malaysia Sabah (UMS). Sabah is a multicultural and multiracial society and the students studying in UMS hold different cultural beliefs and values. The sample comprised of 273 students (77 Malays, 81 Chinese, 77 Kadazan, and 38 others). Each student participated in the research by completing a researcher-designed demographic data sheet, the 82-item Social Axioms Survey (SAS) tapping the five-factor structure of Social Cynicism, Social Complexity, Reward for Application, Fate Control, and Religiosity. Analysis of variance was performed to investigate the differences between gender and between ethnic groups in social axioms. The results of this study indicated significant differences between the genders in Social Cynicism and Fate Control. There were also significant differences between Malay, Chinese, and Kadazan students on the factors of Fate Control, Religiosity, and Social Cynicism. Correlations between the Dimensions of the SAS and between the demographic variables and social axioms were examined. The implications of these findings are discussed.

The broad definition of culture presumes that any ethnographic, demographic, status, or affiliation variable may be potentially salient in defining one's "cultural" identity. Segall, Dasen, Berry, and Poortinga (1990) describe culture inclusively as the totality of whatever all persons learn from other persons. Triandis, Botempo, Leung, and Hui (1990) distinguish among cultural, demographic, and personal constructs, reserving "cultural" for those who speak the same dialect, live in the same geographic area, and share a similar "ethnography."

The concept of culture needs to be scientifically measured. Constructs that relate to behavior, like values, motivation, beliefs, time perception, personality

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traits, and so forth have been identified, measured, and compared (Smith, Bond, & Kagitcibasi, 2006). Efforts have been made to add to the cultural dimensions available for scholars wishing to compare and understand cultures. So, Leung et al. (2002) developed a Social Axioms Survey to assess a comprehensive range of general beliefs about the world in which people function.

Social axioms are generalized beliefs about personhood, the social and physical environment, and the spiritual world. These beliefs are deemed to be true as a result of personal experiences and socialization through the institutions of society, like the family and educational system. People use these beliefs to guide their behavior, as they are instrumental in coping with problems of survival and effective functioning (Bond, Leung, Au, Tong, & Chemonges-Nielson, 2004).

Social axioms serve the four major functions of attitudes: they facilitate the attainment of important goals (instrumental), help people protect their self-worth (ego-defensive), serve as a manifestation of people's value (value-expressive), and help people understand the world (knowledge) (Leung et al., 2002). Based on the data collected from the participants of 40 diverse cultures, Leung and Bond (2004) suggested that five factors of social axioms appeared to be universal: Fate Control, Reward for Application, Social Cynicism, Religiosity, and Social Complexity.

A study done by Neto (2006) on college students from Portugal found that Social Cynicism correlated positively with ageism and loneliness, and negatively with self-esteem; Social Complexity correlated positively with mastery and self-esteem, and negatively with ageism; Reward for Application correlated positively with mastery. Safdar, Lewis, and Daneshpour (2006) also found that active coping and life satisfaction were related to Reward for Application and Social Complexity, respectively, among Iran immigrants in Canada. Social axioms thus seem to have a rich nomological network, and to relate to central constructs in the study of psychology.

Sabah and the Malaysian Cultural Context on Borneo

Sabah is located at the northeastern tip of the island of Borneo. It covers a land area of 73,711 sq km and has a population of 3.5 million (Department of Statistics, 2000). There are about 39 different indigenous ethnic groups and subgroups listed under the Sabah Monograph 1984 and they speak more than 50 languages (Banker & Banker, 1984). The Kadazan, Bajau, Murut, and Paitanic groups are the largest of all the ethnic groups. Other ethnic groups are Brunei Malays, Bisaya, Lun Dayeh, Chinese, Eurasians, and Indians. In addition, migrants from Philippines and Indonesia, estimated between half to one million, are making an impact on the population structure of Sabah.

Kadazans are native to and the largest ethnic group in Sabah. Historically, Kadazans originated from Chinese ancestry (William, 1965). Although no studies have confirmed this claim (Ziani Mohd Isa, 1969), one sees from their skin color, the shape of their eyes, and their culture that there are similarities between these two ethnic groups. Traditionally, native Kadazans employ a holistic belief system (Dayang Suria Haji Mulia, 1990; Staal, 1923; William, 1965); they perceive every-

thing to be one. This includes the person, family, nature, and spiritual world. Native Kadazans seek to find a sense of balance with all of these things.

Chinese, on the other hand, traditionally value harmony, togetherness, and unity (Tan, 1995). Uba (1994) concludes that an endorsement of power and hierarchy characterizes Chinese beliefs in cross-cultural comparisons. Modern Chinese values still retain some traditional aspects. According to Sue and Sue (1991), these values include filial piety, stress on family bond and unity, importance of roles and status, somatization of mental problems, control over strong emotions, stress on academic achievement, and low assertiveness.

For Malays, the family system is a very strong source of support and identity. Gender roles are rather rigid and clearly defined, with the man as the authority figure and the woman as the nurturing, loving person who attempts to meet family needs. The role of personalism and the preference for close personal contact between Malays are emphasized. Respect is important, and is present in all interactions, especially when dealing with older persons. Religion is a very important source of support among Malays.

Sabah is a multiracial society. However, little research on social beliefs has been done in the cultures of Malaysian Borneo. Further, to date, there has been no adequate exploration of the structure of beliefs about the world and the demographic distribution of those beliefs within a given, single society (but see Guan, Bond, Dinka, & Iliescu, 2007; Singelis et al., this volume). Therefore, in this study, the author intends to conduct a close emic analysis of social axioms within Malaysian, especially Sabahan society.

The purpose of this study was to explore social axioms among Malay, Chinese, and Kadazan students in Sabah and to examine the differences of social axioms between genders. In addition, demographic variations in social beliefs among various ethnic groups in Sabah will be depicted and the results will be used to give directions for further research on social axioms.

Method

Participants

Data were collected from 273 students (138 males and 135 females). More specifically, with regard to age distribution, 0.7% (2) were in the "20 or below" group, 63.0% (172) were in the "21 to 30" group, 29.3% (80) in the "31 to 40" group, 6.6% (18) in the "41 to 50" group, and 0.4% (1) in the "51 to 60" group.

As for ethnic groups, 28.2% (77) participants were Malay, 29.7% (81) participants were Chinese, 28.2% (77) participants were Kadazan, 5.5% (15) participants were Bajau, 0.4% (1) participant was Indian, and 8.1% (22) were others.

Regarding their religion, 44.0% (120) participants were Muslim, 38.1% (104) participants were Christian, 17.6% (48) participants were Buddhist, and 0.4% (1) participant was Hindu.

As for education level, the majority of participants, 67.5% (183), were university undergraduate students, 19.9% (54) of participants were in graduate school, 7.7% (21) participants were in the community college, 4.1% (11) participants were in secondary school, and 0.7% (2) participants reported having received only primary school education.

As for occupation, 63.0% (170) of participants were students, 27.4% (74) participants were civil servants, 1.1% (3) were professionals, 2.6% (7) participants were clerks, 3.0% (8) participants were unemployed, 1.1% (3) participants were in nonprofit organizations, and 1.9% (5) participants were in other occupations.

Instruments

Social Axioms Survey The Social Axioms Survey (Leung et al., 2002) used in this study consisted of 82 Likert-type items. A five-point response format was anchored by “strongly disbelieve” and “strongly believe.” The instrument used was translated into Bahasa Malaysia. The method of back-translation was used to check the quality of the translation, and changes were made where inaccuracies had been revealed through the process.

Demographic Measures The respondents were required to list their age, gender, ethnic group, years of education, and occupation.

Procedure

Psychology students enrolled in the School of Psychology and Social Work, Universiti Malaysia Sabah, were selected randomly (or by convenience sampling?). A questionnaire was given to them and included one copy of a cover letter delineating the purpose of the research and procedures to be followed with regard to completing the questionnaire. In section one, they were given a list of personal background questions and asked to circle the number that they felt to be true about them. In section two, they were given the Social Axioms Survey and were asked to answer all questions according to their individual opinion on a five-point scale item, with 5 meaning “strongly believe” and 1 meaning “strongly disbelieve.”

Results

Demographic Data

Table 1 shows the demographic data of the participants.

Table 1 Sample characteristics

Demographic features		Frequency	Percentage
1. Age	20 or below	2	0.7
	21–30	172	63.0
	31–40	80	29.3
	41–50	18	6.6
	51–60	1	0.4
	60 or over	0	0.0
2. Sex	Male	138	50.5
	Female	135	49.5
3. Ethnicity	Malay	77	28.2
	Chinese	81	29.7
	Indian	1	0.4
	Kadazandusun	77	28.2
	Bajau	15	5.5
	Melayu/Brunei	0	0.0
	Others	22	8.1
4. Religion	Islam	120	44.0
	Hindu	1	0.4
	Buddhist	48	17.6
	Christian	104	38.1
	Others	0	0.0
5. Education	Below primary school	2	0.7
	Primary school	0	0.0
	Secondary school	11	4.1
	Community college	21	7.7
	University	183	67.5
	Graduate school	54	19.9
6. Occupation	Civil servant	74	27.4
	Service industry	0	0.0
	Construction	0	0.0
	Professionals	3	1.1
	Student	170	63.0
	Unemployment	8	3.0
	Clerical	7	2.6
	Nonprofit Organization	3	1.1
	Manufacturing	0	0.0
	Others	5	1.9

$N = 273$.

Exploratory Factor Analysis

To determine the structure of the Social Axioms Survey (SAS) among Sabahans, the 82 social axioms items were subjected to a principal components analysis with a varimax rotation. Based on the scree plot and after exploring various other solutions, the author judged that five factors were best to describe the correlation matrix.

By using a criterion of 0.30 for the minimum loading of items to their factors and the absence of sizeable secondary loadings, a five-factor structure with 38 items was obtained (see Table 2), explaining 46.19% of the total matrix variance.

The item composition and meaning of factors 1, 2, 3, 4, and 5 showed close resemblance to those found in previous multinational samples (Leung & Bond, 2004). Factor 1 was thus labeled "Social Cynicism," because the items represent a negative view of human nature, a biased view against some groups of people, a mistrust of social institutions, and a view that others disregard ethical means for achieving their ends. Factor 2 was labeled "Reward for Application," because the items represent a general belief that effort, knowledge, and careful planning will lead to positive results. Factor 3 was labeled "Religiosity," as the items refer to the existence of a supreme being and the positive social functions of religious belief and practice. Factor 4 was labeled "Fate Control," as the items represent a belief that life events are predetermined and that there are some certain ways for people to influence these outcomes. Factor 5 was labeled "Social Complexity" because the items represent a belief about the variability of human behavior and its changes across social contexts.

After recoding the items with negative loadings, the α coefficients and average item-whole correlations were calculated for each factor as a test of internal consistency, with the following results: Social Cynicism, $\alpha = 0.79$ and $r(273) = 0.64$; Reward for Application, $\alpha = 0.79$ and $r(273) = 0.66$; Religiosity, $\alpha = 0.78$ and $r(273) = 0.53$; Fate Control, $\alpha = 0.67$ and $r(273) = 0.46$; and Social Complexity, $\alpha = 0.55$ and $r(273) = 0.47$.

Gender Differences in Social Axioms

Items on each factor were averaged to give scores for each of the five factors and *t*-tests were used to examine the differences between male and female participants on the SAS factors (see Table 3). There were significant differences between male and female participants on Social Cynicism, $t(270) = 4.04$, $p < .01$; male participants had lower Social Cynicism than the female participants. There were also significant differences in Fate Control among male and female participants, $t(262) = 3.79$, $p < .01$; male participants had higher fate control than female participants. Table 3 shows there were no significant differences in Social Complexity, Reward for Application, and Religiosity among male and female participants.

Differences in Social Axioms Between Ethnic Groups

A 3×6 between-within analysis of variance (ANOVA) for ethnicity and factors of the scale was performed to examine the differences among Malay, Chinese, and Kadazan participants in the factors: Social Cynicism, Social Complexity,

Table 2 Rotated component matrix of the social axioms

Item	Component				
	1	2	3	4	5
Kind-hearted people are easily bullied	0.725				
Kind-hearted people usually suffer losses	0.687				
Power and status make people arrogant	0.673				
To care about societal affairs only brings trouble for yourself	0.655				
People deeply in love are usually blind	0.634				
Powerful people tend to exploit others	0.595				
Young people are impulsive and unreliable	0.565				
People will stop working hard after they secure a comfortable life	0.552				
Religious people are more likely to maintain moral standards	0.547				
Old people are usually stubborn and biased	0.443				
The various social institutions are biased towards the rich	0.440				
It is rare to see a happy ending in real life	0.422				
Every problem has a solution		0.681			
Knowledge is necessary for success		0.672			
Competition brings about progress		0.660			
Failure is the beginning of success		0.622			
Hard working people will achieve more in the end		0.610			
Caution helps avoid mistakes		0.600			
One who does not how to plan his or her future will eventually fail		0.502			
There is usually only one way to solve a problem		-0.314			
Religious faith contributes to good mental health			0.694		
Religion makes people escape from reality			-0.678		
There is a supreme being controlling the universe			0.637		
Belief in a religion helps one understand the meaning of life			0.634		
Religious beliefs lead to unscientific thinking			-0.597		
Belief in a religion makes people good citizens			0.549		
Adversity can be overcome by effort			0.437		
There are many ways for people to predict what will happen in the future				0.758	
Individual characteristics, such as appearance and birthday, affect one's fate				0.672	
There are certain ways to help us improve our luck and avoid unlucky things				0.571	
Fate determines one's successes and failures				0.554	
Most disasters can be predicted				0.504	
Good luck follows if one survives a disaster				0.469	
Human behavior changes with the social context					0.659
People may have opposite behaviors on different occasions					0.655
Good luck follows if one survives a disaster					0.469

(continued)

Table 2 (continued)

Item	Component				
	1	2	3	4	5
One has to deal with matters according to the specific circumstances					0.342
One's behavior may be contrary to his or her true feelings					0.339
Current losses are not necessarily bad for one's long-term future					0.321

Note: Only loadings larger than 0.30 are presented. The variances accounted for by these five factors are 12.11% (factor 1), 9.94% (factor 2), 9.33% (factor 3), 8.44% (factor 4), 6.37% (factor 5).

Table 3 *T*-test for gender differences in social axioms

Factor	Gender	<i>N</i>	Mean	SD	<i>df</i>	<i>t</i>
Social Cynicism	Male	137	33.16	6.59	270	4.04***
	Female	135	36.53	7.16		
Social Complexity	Male	136	21.69	2.43	269	0.47
	Female	135	21.53	3.09		
Reward for Application	Male	138	33.72	4.01	271	-1.23
	Female	135	34.34	4.34		
Religiosity	Male	138	26.13	2.97	271	1.97
	Female	135	25.37	3.39		
Fate Control	Male	135	19.72	4.00	262	3.79***
	Female	129	17.90	3.79		

*** $p < .001$.

Reward for Application, Religiosity, and Fate Control. Kadazans had higher Social Cynicism ($M = 37.62$) than Malay ($M = 34.23$) and Chinese ($M = 33.56$).

Some difference in Religiosity was seen among Malay, Chinese, and Kadazan participants. Malay ($M = 26.42$) and Kadazan ($M = 26.34$) showed higher religiosity than Chinese ($M = 24.62$).

In terms of Fate Control, there were significant differences between Malay, Chinese, and Kadazan. Chinese ($M = 20.55$) and Kadazans ($M = 19.31$) had higher Fate Control than Malaysians ($M = 17.29$).

There were no significant differences in Social Complexity and Reward for Application among the three ethnic groups.

Differences on Demographic Variables

Table 4 shows the correlations between age, educational level, and the five dimensions of social axioms. There were significant correlations between age of participants with Reward for Application, $r(273) = 0.17$, $p < .01$, Religiosity, $r(273) = .12$, $p < .05$, and Fate Control, $r(264) = -0.15$, $p < 0.05$. In terms of

Table 4 Correlations between the demographic variables and social axioms

	Age	Education
Age	1.000	-0.103
Education	-0.103	1.000
Social Cynicism	0.054	0.021
Social Complexity	-0.088	0.140*
Reward for Application	0.165**	0.184**
Religiosity	0.121*	0.189**
Fate Control	-0.145*	0.070

* $p < .05$.** $p < .01$.

educational level, there were significant correlations between educational level of participants with Social Complexity, $r(269) = 0.14$, $p < .05$, Reward for Application $r(271) = 0.18$, $p < .01$, and Religiosity, $r(271) = 0.19$, $p < .01$.

Discussion

Gender differences in social axioms on the dimension of Social Cynicism and Fate Control might be related to the gender roles and unequal status of males and females in Malaysia. Gender roles are rather rigid and clearly defined, with the man as the authority figure and the woman as the nurturing, loving person who attempts to meet family needs. Females in Malaysia are socialized as subordinate to males in almost all subsystems of society. Thus, females in Malaysia encounter more difficulties which cannot be resolved by their own efforts, so they may attend to signs, signals, and omens, reacting in ways that they believe will help them steer clear of negative events, instead of directly solving their problems.

Hard life experience may lead the females to high social cynicism, since “social cynicism emerges as a response to a fundamental requirement of survival and adaptation in a social world in which deception by others is frequent, and gullibility dangerous” (Leung & Bond, 2004, p. 183).

There are significant differences between Malay, Chinese, and Kadazan on Social Cynicism. Chen, Cheung, Bond, and Jin (2006) and Neto (2006) found in other cultures, social cynicism relates to lower satisfaction and lower self-esteem. Hard life experience by Kadazans may lead them to endorse higher social cynicism. Kadazan students have higher social cynicism than Malay and Chinese students. Traditionally, Kadazans, who are known as ‘head-hunters,’ are proud to have power and status in the community and make them arrogant and tend to exploit others. Kadazans have the propensity to associate with persons rather than with institutions. For example, if a college students’ midterm essay is critiqued by the professor, the Kadazan will often take the criticism personally—as an attack on his or her self-esteem. Being the minority group that has been suppressed in the past, Kadazans have experienced anger, rejection, and conflict. Therefore, high

social cynicism among Kadazan, as has been found in other cultures, relates to lower life satisfaction (Chen et al., 2006), higher loneliness, and lower self-esteem (Neto, 2006). However, Kadazans have close family relationships (Dayang Suria Haji Mulia, 1990; Staal, 1923; William, 1965). Kadazan explains group solidarity and doing things together. As a value, it favors the avoidance of direct confrontation that could lead to negative or deviant behaviors.

There are significant differences between Chinese, Malay, and Kadazan on Religiosity. Malay and Kadazan students have stronger beliefs about religion than the Chinese. Malay and Kadazan students' belief in religion maintains moral standards and a positive attitude towards mosque/church, loyalty in worship, faithfulness in the study of the Qur'an and Bible and the commitment of Islamic or Christian action. Stronger religiosity provides them with meaning of life that is holistic and integrated and a moderation of the anxiety surrounding death (Hui, Bond, & Ng, 2006–2007; Pacos, 2002).

The results of the study indicate that Chinese students have higher Fate Control than Malaysians and Kadazans. Chinese students believe that fate determines one's successes and failures and a person's talents are inborn. For Chinese students, hardships, socioeconomic status, and role in society necessitate the quiescent acceptance of one's fate. On the other hand, the Malay and Kadazan students believe that hard work and self-confidence determine one's successes and failures. They tended to have negative beliefs on fate control as ways to maintain the balance between the good and bad things for harmonious living and coping with increasingly rewarding experience (Pacos, 2002).

A second purpose of this study was to explore demographic differences in the endorsement of social axioms. Since the majority of the participants were university students in the middle age group, Pearson correlations showed that students of a middle age group, high education, and low income gave higher endorsement of Reward for Application, Religiosity, and lower endorsement of Fate Control. For senior level students in higher education, knowledgeable, competitive, hard working, and have stronger religiosity provides them with meaning in life, more psychological peacefulness, and a lower anxiety surrounding death. Respect for authority figures is highly valued and subordinates (usually defined in context of the social interactions) are expected not to disagree openly or talk back to them (i.e., elders and parents). Based on the above principles, the concept of respect is paramount. Any disrespectful action carried out accidentally or purposefully invites trouble for the individual or community (Pacos, 2002).

Middle age students and those with higher education have a sense of gratitude, moral obligation, and reciprocal expectation based upon favors or unsolicited assistance (Ranjit Singh, 1963). They may not have immediate rewards, but if the beneficiary with this trait is still alive, the obligation is expected to last forever, even extending to family and relatives. The failure to repay this moral obligation is considered extremely shameful and disrespectful (Staal, 1923; William, 1965; Zaini Mohd. Isa, 1969).

Those with higher education gave a higher endorsement of Social Complexity, Reward for Application, and Religiosity. Educated people value the family system as a very strong source of support and identity. They provide each individual a

source of warmth, support, and guidance. Family unity, loyalty, and love give each individual a sense of security and well-being. People with higher education have a strong belief that one will succeed if he/she really tries, and hard working people will achieve more in the end as compared to low achievers. Knowledge is necessary for success. They believe that open criticism is important to identify a problem and competition is healthy and brings about progress. For educated people, planning their future is important and they believe one if does not know how to plan his/her future will eventually fail. In comparison, the indigenous Kadazans believes in holistic, participatory growth, nurturance, and mutual trust as principles that underlie their success in life.

Several implications for future research seem apparent as a result of this study. Since the study was conducted with a small sample of three major ethnic groups in Sabah who were largely from an academic setting, a replication of this study with a larger and more socioeconomically diverse sample would allow greater generalizability of the results.

Psychologists who are interested in working in the area of social axioms and in the area of cross-cultural psychology should take into consideration ethnical and cultural differences, among ethnic groups, and the sociopolitical literature as it pertains to social and economic change.

Social axioms are beliefs about the material, social, and spiritual world, assessing what the person regards as true. This unilateral instrument was then applied as a measure of social axioms factors for three additional cultural groups—Malay, Chinese, and Kadazan. With this in mind, it is believed that further research would warrant the modification of the instrument to include culturally relevant items or to exclude culturally irrelevant items. An item is relevant when it can be accepted by one's culture and religion and sensitive to the local communities' expectations. An item is irrelevant when it is not culturally and religiously sensitive.

In conclusion, this study acts as a point of departure for psychologists pursuing a greater awareness and understanding of students of differing ethnic and cultural backgrounds. Further research may be conducted to explore the structure of social axioms in Malaysian culture, not only Sabah, Borneo to verify the dimensionality of the Social Axioms survey obtained in previous pan-cultural study (Leung & Bond, 2004) by using the largest sample, thereby ensuring the stability of the solution. In addition, a study of older age, single mother, differences of married and unmarried groups are also worth further research.

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Section B
Transmission of Social Axioms

Are Parents Decisive? The Intergenerational Transmission of Social Axioms Under Conditions of Rapid Social Change

Klaus Boehnke

Abstract The chapter reports a study of 149 East German university students and their parents. It addresses six research questions: (1) the structural equivalence of social axioms across generations, (2) their positional stability across generations (i.e., a high parent–child correlation), (3) differences in the average endorsement of social axioms between generations, (4) differences in parent–child correlations for same-gender as opposed to opposite-gender parent–child dyads, (5) the impact of parental similarity on the endorsement of social axioms in intergenerational transmission, and (6) the importance of *zeitgeist* for intergenerational transmission. The central finding of the reported study is that—under conditions of rapid social change, as found in East Germany after unification—the five social axioms differ largely in the extent to which they are transmitted from one generation to the next. Strongest transmission effects among the five social axioms were found for *religiosity*. Only for that dimension of social axioms does one find high structural, intergenerational similarity that speaks for a fully equivalent definition of the social axiom dimension across generations, and a high intergenerational correlation. This does not only mean that religiousness is transmitted well in East German families; the same pertains also to areligiousness. A family’s views on religion tend to be quite homogeneous across generations.

Introduction

How does one see the world when the world is rapidly changing, and what do parents convey to their children about it if they themselves have no clear idea of how to deal with the changes? This scenario sets the frame of the present

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chapter—a study of parents and their young-adult offspring from East Germany with data gathered at the turn of the millennium. In the prior ten years the world had turned upside down, so-to-speak, for the parents with the political turn from “real socialism” to capitalism, while the children came of age in just that time. Is there anything about views of the world that parents can successfully convey to their children?

Slightly modifying the definition they offered in their inaugural paper on universal dimensions of general beliefs about how the world functions (Leung et al., 2002), Leung and Bond (2007) define social axioms on the web site of their ongoing project as “generalized beliefs about people, social groups, social institutions, the physical environment, or the spiritual world as well as about events and phenomena in the social world ... encoded in the form of an assertion about the relationship between two entities or concepts.” In contrast, an accepted definition of values is that they are “concepts or beliefs about desirable end states or behaviors that transcend specific situations, guide selection or evaluation of behavior and events, and are ordered by relative importance” (Schwartz & Bilsky, 1987, p. 551).

In essence, the main difference between social axioms and values is not that both can be seen as beliefs and that both transcend situations and guide behavior, but that social axioms refer to a subjective appraisal of how the world and human beings *are*, whereas values refer to a subjective appraisal of how the world and human beings *should be*. Another major difference is that values are about self-perception, whereas axioms are about assessment of the social world. Of course, both types of beliefs are intertwined: The picture I paint of the world as it is will be governed by my beliefs about how it should be, and vice versa. In fact, there are small but occasionally significant relations between these two sets of constructs, as Leung et al. (2007) have shown in a cross-cultural study relating social axioms and the Schwartz (1992) value types.

Historically, conceptualizations of both types of beliefs have a common root in psychological thinking. Both, in large part, originate from the writings of the German “*geisteswissenschaftliche Psychologie*” in the early twentieth century (Dilthey, 1977; Spranger, 1928).¹ Both types of beliefs were subsumed in that German psychology school (which in broad terms defined the discipline as a part of the humanities) under the concepts of *Menschenbild* (imperfectly translated to English as “image of the human being”) and *Weltanschauung* (a term that has even made it into the English language and is typically translated as “world view”) (Merriam-Webster, 1993). The German variety of humanistic psychology was clearly antiempirical if judged from a positivist, natural-science viewpoint. As it wanted to understand the human being in a holistic way, the distinction between descriptive and evaluative images of the human being and the world were unnecessary. The two were used almost interchangeably in the German variant of

¹Reference is made to English translations of German books published in the late nineteenth and early twentieth century.

humanistic psychology, though one, the *Menschenbild*, is essentially referring to beliefs about the nature of human beings and their relations to each other and to the world, whereas the other, *Weltanschauung*, refers to how the world should be seen. *Weltanschauung* always bears the connotation of an opinionated stance vis-à-vis the world.

In spite of the fact that North American psychology was strongly influenced by views like Titchener's (1915) that values and images of the human being have no place in scientific psychology, American researchers picked up both concepts and created measurement instruments for them, something abhorred by German humanistic psychology of the early twentieth century. For example, the Allport–Vernon–Lindzey value instrument (Allport & Vernon, 1931; Allport, Vernon, & Lindzey, 1960) is in essence an operationalization of Eduard Spranger's (1928) "Types of men," a book Allport had studied during his German years in the 1920s (Bruner, 1968). An early review of psychological value studies (Dukes, 1955) makes these origins clear, and one can certainly find traces of Allport's seminal work in all influential contemporary approaches to the study of human values.

Empirical research on subjective appraisals of the nature of human beings is much rarer. Here the classical example is the "Philosophies of Human Nature" study by Wrightsman (1964, 1992), traces of which can be found in Leung et al.'s (2002) work on social axioms: Both Wrightsman and Leung and colleagues see (social) complexity as a core aspect of beliefs about human nature. As do Allport and Vernon (1931), Wrightsman also refers to the work of Eduard Spranger, though only indirectly by connecting to the work of Fillmore Sanford, a student of Gordon Allport, who refers to Spranger in his monograph, *Psychology: A Scientific Study of Man* (Sanford, 1961). However, in the domain of the psychological study of human nature, Spranger left more traces in French social psychology, particularly in the work of Frommaget (1974/1975) who developed a quantitative approach to the measurement of *Weltanschauung*, later picked up once again—to close the circle—by German psychologists (e.g., Boehnke, 1986; Bottenberg, 1982).

What is new about Leung and Bond's social axioms approach is that it offers a first chance to clearly distinguish the subjective appraisal of *what is* (axioms) from the subjective appraisal of *what should be* (values), and to extend this distinction multiculturally.

Transmission of Beliefs

Having briefly addressed the question of the transmission of ideas in the history of psychology, focusing on beliefs and values, the chapter now turns to the transmission of the beliefs themselves: How do people come to have certain beliefs about human nature? Broadly speaking, people are socialized to acquire those beliefs in light of their genetic predispositions. But, how does transmission take place and which socialization agents are at work?

The literature about the transmission of beliefs across time and place is scattered over all social science disciplines. One finds examples in religious studies, where intergenerational transmission of *believing* is of interest (Carlton & Weiss, 2001), musicology (Ho, 2000), anthropology (Bronner, 2000; Laland, Kumm, & Feldman, 1995; Mosley-Howard & Evans, 2000), management (Chattopadhyay, Glick, Miller, & Huber, 1999), health studies (Lau, Quadrel, & Hartman, 1990; Rundall & Wheeler, 1979), educational science (Magsino, 1986), sociology (Moss & Abramowitz, 1982), and political science (Kirkpatrick, 1976).

In psychology, studies on the intergenerational transmission of beliefs are scarce. Some studies are found in health psychology (Dutta & Basu, 2007), educational psychology (Holloway, Kashiwagi, Hess, & Azuma, 1986; Wingert, 1998), clinical psychology (Kanofsky & Lieb, 2007), and family psychology (Snarey & Dollahite, 2001; Soenens et al., 2005). All referenced studies have a highly applied focus. Quantitative psychological studies on the intergenerational transmission of beliefs in the family per se are not reported in the literature. The current chapter attempts to fill this gap.

In contrast to the study of belief transmission, basic psychological and sociological research on the transmission of values is available in considerable volume, and focuses on value transmission within the family. This is not the place to review that literature, but one can summarize its main aspects in the following way (see also Boehnke, Hadjar, & Baier, 2007; Knafo & Schwartz, 2004):

- (a) Similarities of values between parents and children in a family can essentially have four sources: parents influencing children; children influencing parents; cultural influence putting both parents and offspring under a certain pressure towards uniformity; and, fourthly, shared genes.
- (b) The similarity of parent and offspring value preferences is typically higher in same-gender than in opposite-gender, parent–offspring dyads.
- (c) Intergenerational value similarity is generally higher in families where value preferences of mother and father are more similar.
- (d) Median similarities between parents' and children's value preferences are generally not very high ($r < 0.30$), but differ substantially between specific types of values. For values less cherished in a given culture/society, parent–child value similarity is typically higher than for values ranked highly in a given society.
- (e) For a family to hold value preferences dissimilar to the average preferences of their surrounding cultural context makes it likely that values of parents and offspring are more similar than they are on average in that cultural context.

The mechanism behind the findings referred to under (e) and (d) seems to be essentially the same one: Families that hold values atypical for a given culture or society or support or reject certain values to a degree that is unusual for a given society or culture will have to communicate more about their values than families that hold middle-of-the-road values. This higher degree of communication about values then exerts a homogenizing influence on parents' and offspring's values.

This brief summary of the findings from value transmission research will function as a looking-glass for the current study. Can one assume that the mechanisms

are similar for social axioms? Before exploring the answer to this question, however, it is necessary to discuss what is meant by intergenerational similarity. The methodological debate on what similarity means across sources and across time has resulted in a sizeable literature, especially with regard to the development of the self-concept. The central questions posed in such studies have been reviewed by Dusek and Flaherty (1981) in a monograph entitled, *The development of the self-concept during the adolescent years*. Dusek and Flaherty spell out that similarity, of the self-concept across time in their case, has to be broken down into three different aspects, namely structural similarity, positional similarity, and level similarity. With their background in developmental psychology of adolescence, they call the first aspect of similarity that of a continuous as opposed to discontinuous development. What they mean is that one has to determine whether a construct is structured equivalently across time, operationalized as the degree of structural similarity between waves of measurement.

In the developmental psychology of adolescence, it is quite obvious to ask the question of a continuous as opposed to a discontinuous development, because one of the oft-cited images of adolescence is that of “Storm and Stress,” implying that everything changes during that time of life, and that what is meant when, for example, a 13-year-old speaks of his/her self is something totally different from what the same adolescent means when talking about the self at age 16. For quantitatively oriented researchers, to compare the self-concept at the two ages, it is thus necessary to first establish structural similarity across time, before they can direct their attention to any other aspects of similarity.

This methodologically rigorous approach should also be followed in studies of the intergenerational transmission of values or, here, beliefs. Before one can analyze something like the correlation of scores across generations, one has to establish that parents and offspring indeed mean the same thing when they talk about a particular value or social axiom: Sufficient intergenerational structural equivalence has to be shown, before any further analyses of parent-child similarity can be undertaken. Only after structural equivalence of social axioms across generations has been established can one be concerned with positional similarity, the classic intergenerational correlations of scores.

But, determining positional stability is not the end of the journey in the analysis of the intergenerational transmission of social axioms: A third aspect of similarity to be considered is that of level similarity, which is distinct from positional similarity. This becomes clear immediately, when we consider again an example from adolescent development. An American boy who reports being 1.55 m tall at age 13 is probably average in his culture. If that same boy reports exactly the same height at age 15, then his height has stayed perfectly stable. So, one could say that there is an extremely high level of similarity across time. His position among male American adolescents has, however, changed drastically, and he has dropped from being of average height to being short. Obviously (positional) stability/instability has very little to do with level similarity. This fact has to be taken into consideration also when assessing the intergenerational transmission of social axioms: The question whether parents and children have the same absolute endorsement level

of a particular social axiom has to be distinguished from the positional stability reflected in cross-generational correlations.

The reference to positional stability in a group leads to one further aspect of intergenerational similarity that has to be addressed. The group to which one belongs, that is, the sample, the life context, or the culture, is not only apt to influence the strength of a particular aspect of intergenerational similarity, namely sample-specific positional stability, but may also exert an influence in a more substantive way. As briefly referenced above, the author has shown for the intergenerational transmission of values that families with unusual value preferences (more than one standard deviation above *or* below the average endorsement of a particular value) will show much higher correlations between parent and offspring scores for that value than families with average preferences for the same value (Boehnke et al., 2007). As an initial hypothesis, the same can be assumed for social axioms: Positional stability of social axioms is expected to be higher among families that are nonmainstream with regard to a particular social axiom than among families that are mainstream.

In summary, six research questions are dealt with in the present chapter:

1. Do social axioms show structural equivalence across generations in families?
2. Is there positional stability across generations (i.e., a high parent–child correlation) for social axioms?
3. Does the average endorsement of social axioms differ between generations?
4. Are there differences in parent–child correlations for same-gender as opposed to opposite-gender parent–child dyads?
5. Does the size of intergenerational similarity in the endorsement of social axioms depend on the degree to which parents are themselves similar in the endorsement of a particular social axiom?
6. Is there a differently high correlation between the parents' and offspring's endorsement of social axioms in families with middle-range scores as opposed to more extreme scores on the various social axioms scales?

The Structure of Social Axioms

Leung et al. (2002) distinguish five social axioms, defined in a way documented in the opening paragraph of this chapter: *social cynicism*, *reward for application*, *social complexity* (formerly “social flexibility”), *religiosity* (formerly “spirituality”), and *fate control*.

Social cynicism represents a negative view of human nature, especially as it is easily corrupted by power; a biased view against some groups of people; a mistrust of social institutions; and a disregard of ethical means for achieving an end. An example item is, “Power and status make people arrogant.”²

²Sample items are taken from the present study insofar as they represent the items with the highest loadings on their respective social axioms in the study reported here.

Reward for application represents a general belief that effort, knowledge, careful planning, and the investment of other resources will lead to positive results and help avoid negative outcomes. An example item is, "One will succeed if he/she really tries."

Social complexity suggests that there are no rigid rules, but rather multiple ways of achieving a given outcome and that apparent inconsistency in human behavior is common. An example item is, "Human behavior changes with the social context."

Religiosity asserts the existence of supernatural forces and the beneficial functions of religious belief. An example item is, "There is a supreme being controlling the universe."

Fate control represents a belief that life events are predetermined *and* that there are some ways for people to influence outcomes. An example item is, "Fate determines one's successes and failures."

Individuals are assumed to differ in the degree to which they endorse these five social axioms. For the purposes of the study reported here, a German 60-item version of the Social Axioms Survey, prepared by Bierbrauer and Klinger (2000), was used. In it, items were affixed with a verbally anchored, five-point rating scale ("strongly disbelieve," "disbelieve," "no opinion," "believe," "strongly believe").

Sample

One hundred and forty-nine triads of mothers, fathers, and offspring were studied. The mean age of the offspring generation was 20.5 ($SD = 2.1$). The mean age of mothers was 45.5 ($SD = 5.7$), whereas the mean age of fathers was 48.0 ($SD = 5.7$). Thirty of the offspring were male, 116 female. Female offspring were on average about a year and a half younger than male offspring (20.1 vs. 21.8), and accordingly also had younger parents. It is important to note that the sample was drawn haphazardly from among sociology and psychology students of Chemnitz University of Technology, Chemnitz being the former Karl-Marx-Stadt in what used to be the German Democratic Republic until German unification. Data gathering took place in the year 2000.

Structural Similarity Between Generations

Research question #1 was to test whether there is structural similarity of social axioms between the parent and the offspring generation. There is a large methodological literature on how to establish structural similarity. In cross-cultural research on beliefs the topic has been discussed, among others, by Oettingen, Little, Lindenberger, and Baltes (1994) and by Stetsenko, Little, Oettingen, and Baltes (1995). Typically, a structural equation modeling approach is used when researchers want to establish the structural similarity of a construct among two or more different groups of respondents.

However, it seems a more exploratory strategy is appropriate here, because Bierbrauer and Klinger's (2000) German version of the Social Axioms Survey has not been used with East German respondents before. Thus, an analytic strategy must

be chosen that, on the one hand, explores the factorial validity of the German Social Axioms Survey for East German respondents, but, on the other hand, secures sufficient structural similarity of the five social axioms among both parents and offspring.

To accommodate for both needs simultaneously, principal component, exploratory factor analyses (PCAs) were performed separately for all five axiom scales, keeping mothers, fathers, and offspring apart. Items meant to measure a particular axiom dimension were specified to load on one factor by forcing a one-factor solution, thereby introducing a confirmatory element into the exploratory PCAs. Those items were then checked which exhibited loadings of a sufficient size (>0.40)³ on their intended scale for offspring, mothers, and fathers. This procedure led to retaining 11 (students), 9 (mothers), and 7 (fathers) items out of 18 for social cynicism, 8 (s), 11 (m), and 10 (f) items out of 14 for reward for application, 5 (s), 7 (m), and 8 (f) items out of 12 for social complexity, 6 (s), 8 (m), and 8 (f) items out of 8 for religiosity, and 6 (s), 6 (m), and 5 (f) items out of 8 for fate control. Table 1 documents only those items that exhibited a loading greater or equal to 0.40 on their factor for offspring, mothers, and fathers, because these are the core items that bear a sufficiently similar meaning across generations.

Results documented in Table 1 clearly show that structural similarity of social axioms between the generations is not overly high. For *social cynicism*, only 3 out of 18 items proved to be understood in a sufficiently similar manner among East German university students and their parents. For *reward for application* cross-generational similarity is clearly bigger: Six out of 14 items bear a sufficiently similar meaning. For *social complexity*, 5 out of 12 items emerged as bearing a similar meaning. For *religiosity* 6 out of 8 items showed intergenerational structural similarity, whereas five out of eight items did so for *fate control*. In summary, the two social axioms that have to do with transcendentality exhibited fairly high intergenerational structural similarity. Reward for application and social complexity emerged as having a medium to low structural similarity between parents and offspring. For social cynicism, meanings were highly generation-specific and there only was a small meaning overlap between parents and offspring.

Positional Similarity

Positional similarity between parents and offspring is typically assessed by calculating simple correlations for the scores parents and offspring have on the pertinent scales. To do so, scale scores were calculated for the intergenerationally meaningful

³By choosing this cutoff value, the study resorts to the most common threshold value in social science research, as shown in a meta-analysis by Peterson (2000). In spite of the fact that the sample size of the study falls below the average of the studies reported by Peterson, one should take into consideration that, here, the factor loadings originate from five separate factor analyses for the five social axioms, each forcing a one-factor solution for the social axiom items under scrutiny in that analysis, so in each and every case the commonly expected sample size for reliable exploratory factor analyses ($N > 3$ times the number of items analyzed) is exceeded.

Table 1 Loadings of social axiom items exhibiting sufficient structural similarity across generations

Items (item–number) ^a	Loadings		
	Students	Mothers	Fathers
<i>Social Cynicism</i>			
Power and status make people arrogant (SC3)	0.577	0.615	0.460
Old people are a heavy burden on society (SC15)	0.418	0.431	0.425
Old people are usually stubborn and biased (SC11)	0.413	0.560	0.578
<i>Reward for Application</i>			
Hard working people will achieve more in the end (RA2)	0.648	0.609	0.519
The just will eventually defeat the wicked (RA9)	0.633	0.575	0.517
One will succeed if he/she really tries (RA1)	0.589	0.635	0.730
Adversity can be overcome (RA6)	0.476	0.630	0.555
Caution helps avoid mistakes (RA12)	0.463	0.427	0.494
Every problem has a solution (RA8)	0.434	0.460	0.433
<i>Social Complexity</i>			
People may have opposite behaviors on different occasions (SF3)	0.762	0.590	0.539
One's behavior may be contrary to his or her true feelings (SF7)	0.633	0.649	0.458
Current losses are not necessarily bad for one's long-term future (SF10)	0.585	0.506	0.468
On has to deal with matters according to the specific circumstances (SF2)	0.476	0.528	0.569
Human behavior changes with the social context (SF1)	0.463	0.540	0.581
<i>Religiosity</i>			
Belief in a religion helps one understand the meaning of life (SP4)	0.763	0.827	0.811
Religious faith contributes to good mental health (SP5)	0.762	0.663	0.720
There is a supreme being controlling the universe (SP1)	0.759	0.789	0.786
Religion makes people escape from reality (SP7)	-0.636	-0.773	-0.597
Religious beliefs lead to unscientific thinking (SP8)	-0.604	-0.729	-0.485
Belief in a religion makes people good citizens (SP2)	0.573	0.647	0.603
<i>Fate Control</i>			
Most disasters can be predicted (FC6)	0.695	0.717	0.718
There are many ways for people to predict what will happen in the future (FC4)	0.647	0.656	0.447
All things in the universe have been determined (FC5)	0.638	0.467	0.582
Fate determines one's successes and failures (FC1)	0.601	0.468	0.735
Individual characteristics, such as appearance and birthday, affect one's fate (FC2)	0.600	0.595	0.481

^aTaken from the Social Axioms Project web site (http://personal.cityu.edu.hk/~mgkleung/SAS60_Eng.pdf).

Table 2 Parent–offspring correlations for the five social axioms

Social axiom	Correlations				
	Students/mothers		Students/fathers		Mothers/fathers
	Sons/mothers	Daughters/mothers	Sons/fathers	Daughters/fathers	
<i>Social Cynicism</i>	0.18	0.28**	0.22	0.10	0.11
<i>Reward for Application</i>	0.38*	0.17*	–0.12	0.05	0.17*
<i>Social Complexity</i>	0.14	0.06	–0.04	0.02	0.12
<i>Religiosity</i>	0.27	0.42***	0.33	0.44***	0.56***
<i>Fate Control</i>	0.06	0.14*	0.08	0.08	0.24**

items from the five social axiom scales, as documented in Table 1. Scale scores were calculated by averaging the items that belong to one scale.⁴ Internal consistency coefficients for the 3 × 5 scales obviously differed considerably. They ranged from $\alpha = 0.33$ for the three-item social cynicism scale for fathers and $\alpha = 0.84$ for the six-item religiosity scale for mothers. Reliabilities, thus, were between the lower limit of acceptability and excellent scores depending in part, of course, on the number of items in a scale.

Table 2 documents parent–offspring correlations for the five social axioms.

Coefficients reported in Table 2 show that for *social complexity* no significant correlations between any members of the mother–father–offspring triad were found. For *social cynicism*, scores of mothers and offspring correlated to $r = 0.28$, while the father–offspring and surprisingly also the mother–father correlation were insignificant. *Reward for application* as well as *fate control* were correlated significantly for mothers and fathers as well as for mothers and offspring. For *religiosity*, scores of all family members were highly correlated with each other.

Level Similarity

To assess the degree of intergenerational level similarity repeated measures ANOVAs were used to compare mean ratings of mothers, fathers, and offspring for the five social axioms. Table 3 documents means and standard deviations as well as significant intergenerational differences for the five social axioms.

⁴Factor scores per social axiom scale were also calculated; differences in inter-generational correlations were only minute, so results pertaining to these are omitted.

Table 3 Means and standard deviations of social axioms and intergenerational differences

Social axiom	Means (standard deviations)			$F_{2/296} p \eta^2\%$ Significant Contrast ($p < .05$)
	Students	Mothers	Fathers	
<i>Social Cynicism</i>	3.04 (0.69)	2.87 (0.77)	3.04 (0.75)	3.22 .041 2.1 Mother/offspring Mother/father
<i>Reward for Application</i>	3.74 (0.58)	3.72 (0.64)	3.85 (0.62)	2.39 .093 1.6 Mother/father
<i>Social Complexity</i>	4.46 (.38)	4.31 (.49)	4.27 (.49)	7.54 .001 4.8 Mother/offspring Father/offspring
<i>Religiosity</i>	2.73 (0.83)	2.79 (1.03)	2.58 (0.91)	3.85 .022 2.5 Mother/father Father/offspring
<i>Fate Control</i>	2.53 (0.77)	2.14 (0.76)	2.03 (0.75)	21.65 < .001 12.8 Mother/offspring Father/offspring

Again, the picture is mixed: For *social cynicism*, mothers had lower scores than both fathers and offspring. For *reward for application*, level stability was found. For *fate control*, a clear cross-generational increase of *Schicksalsgläubigkeit*, as Germans call a belief in predetermination of one’s fate, was found. The same emerged for *social complexity*: Once more the younger generation endorsed this social axiom more highly than did the parent generation. For *religiosity*, the result was different: Here significant differences were found between mothers, fathers, and offspring, but in this case both students and mothers differed significantly from fathers, who endorsed religious beliefs least.

The Import of Gender in the Transmission of Social Axioms

In value transmission research, gender has sometimes been proclaimed an important moderator of transmission processes. Findings as well as interpretations of these findings have, however, been quite diverse. It has been argued that same-gender transmission should be stronger than opposite-gender transmission on the grounds of a psychoanalytically rooted assumption that children will identify more with the same-gender parent in general. Another line of reasoning is that in societies where mothers spend more time with their children than do fathers, mother–child value similarity should always be higher than father–child value similarity. Thirdly, it was proposed that father–child similarity should always be higher because fathers are the societally most powerful family member. Fourthly, it was proposed that fathers should have a higher influence on children’s value preferences for “male values,” whereas for “female values” mother–child value similarity should be higher.

For social axioms we can only test the first three propositions, because it is not obvious which of the social axioms can be seen as “male” and which as “female.” Intergenerational similarities of social axiom endorsement, broken down by gender of offspring, are documented also in Table 2.

An inspection of the correlations reveals that there is no sign of stronger same-gender parent–offspring similarities in the endorsement of social axioms; stronger same-gender similarities were found only in six out of ten possible cases. Mother–offspring similarities were larger than father–offspring similarities in seven out of ten cases, suggesting that also here there is no significant support for a stronger impact of mothers on the transition of social axioms. Finally, there is no indication for something like a “female” as opposed to “male” social axioms: There is no instance where there is a significant correlation of one parent’s endorsement of a particular social axiom dimension with both the son’s and the daughter’s endorsement of that same social axiom.

In summary, one can say that, unlike in some studies on value transmission, there is no indication for a gender-based similarity pattern in the intergenerational transmission of any of the social axioms.

Parental Agreement on Social Axioms as a Moderator of Transmission

Studies that support degree of parental agreement on values as a moderator of value transmission typically follow the tradition of research by Cavalli-Sforza and Feldman (1981), who found that in families where stronger agreement of parents on values exists, transmission processes are stronger than in families where parents tend not to have similar value orientations.

Testing this finding for social axioms means that one first has to establish the degree of parental agreement on social axioms. To distinguish families high in parental agreement on social axioms from families low in parental agreement on axioms, *z*-standardized absolute endorsement differences between parents were calculated and the median of these absolute endorsement differences was determined. Then parent–offspring correlations were computed separately for families with above- and below-median similarities in the endorsement of the five social axioms. Table 4 documents parent–offspring correlations for families with above- and below-median parental similarity in the endorsement of the five social axioms.

Table 4 Parent–offspring correlations for high vs. low parental consensus families

Social axiom	Correlations			
	Low parental consensus		High parental consensus	
	Students/mothers	Students/fathers	Students/mothers	Students/fathers
<i>Social Cynicism</i>	0.32**	0.03	0.25*	0.16
<i>Reward for Application</i>	0.32**	0.03	0.01	0.05
<i>Social Complexity</i>	−0.03	−0.08	0.18	0.16
<i>Religiosity</i>	0.45***	0.38***	0.41***	0.46***
<i>Fate Control</i>	0.20	0.04	0.18	0.11

The table suggests that there was no specific moderation effect of parental agreement on social axioms visible in the sizes of parent–offspring similarities. If there was a significant difference between low and high agreement families, it was in the low agreement families that a parent–child similarity coefficient was higher. This was so in one out of ten possible cases, namely with reward for application, where the mother–offspring correlation was significantly higher in the low parental agreement families than in the high parental agreement families.

Zeitgeist Influence

In a paper concerned with the intrafamilial transmission of Hierarchic Self-Interest (HSI; Hagan, Rippl, Boehnke, & Merkens, 1999), Boehnke, Hadjar, and Baier (2007) reported the finding that in families with middle-of-the-road HSI values the strength of transmission effects was negligible, while in families in which family members had either extraordinarily low or extraordinarily high HSI values inter-generational value similarity was substantially higher. They call the middle-of-the-road families *zeitgeist*, the others non-*zeitgeist* families. Extraordinarily high and low scores on HSI were defined as being more than a standard deviation above or below the sample mean. The same line of analysis was followed here.

First of all, scores were *z*-standardized—separately for the five social axioms scales, and separately for mothers, fathers, and offspring. Then mothers, fathers, and offspring within the range of one standard deviation of the mean of their pertinent subsample, i.e., the sample of mothers, fathers, and offspring, respectively, were assigned the score “1” for *zeitgeist* adherence. Mothers, fathers, and offspring with scores outside the range of one standard deviation of their pertinent subsample mean were assigned the score “0” for *zeitgeist* adherence. *Zeitgeist* adherence scores of all family members were then added up and families with scores of “2” or “3” were categorized as *zeitgeist* families, whereas families with scores “0” and “1” were categorized as nonzeitgeist families. Table 5 documents parent–offspring similarities in the two types of families.

Table 5 Parent–offspring correlations for *zeitgeist* vs. non-*zeitgeist* families

Social axiom	Correlations			
	Non- <i>zeitgeist</i> families		<i>Zeitgeist</i> families	
	Students/mothers	Students/fathers	Students/mothers	Students/fathers
<i>Social Cynicism</i>	0.47**	0.13	0.11	0.04
<i>Reward for Application</i>	0.35+	-0.06	0.05	0.10
<i>Social Complexity</i>	0.04	-0.03	0.05	0.03
<i>Religiosity</i>	0.57***	0.58***	0.21*	0.19
<i>Fate Control</i>	0.28+	0.08	0.01	0.11

+ $p \leq .10$; * $p \leq .05$; ** $p \leq .01$; *** $p \leq .001$

Results documented in Table 5 show a clear *zeitgeist* effect, but only for those instances where there indeed was a significant intergenerational correlation. Whenever such a correlation emerged, it was either higher or only existed in non*zeitgeist* families, whereas in *zeitgeist* families intergeneration correlations were lower.

Summary of Results

Strongest transmission effects among the five social axioms were found for *religiosity*. Only for that social axiom does one find high structural intergenerational similarity that speaks for a fully equivalent definition of the social axiom across generations, and a high intergenerational correlation. This does not only mean that religiousness is transmitted well in East German families; it simultaneously means that areligiousness is transmitted as well. A family's views on religion tend to be quite homogeneous across generations. This effect is stronger even, in families particularly low and high in religiosity in comparison to fellow parents and students with a medium endorsement of the religiosity social axiom.

Additionally, a certain degree of genderedness in transmission was found: Daughters were more highly susceptible to the degree to which their parents endorsed religiosity than sons were, suggesting that a family's view of religiosity was more strongly transmitted to female than to male offspring. Furthermore, sons and daughters indicated a higher degree of endorsement of the religiosity social axiom than their fathers, though not than their mothers.

For *fate control*, the picture that emerged was somewhat similar, though all effects were considerably weaker. Structural similarity was fairly high. Positional similarity was significant for the mother–father and the mother–offspring dyad. Levels of endorsement of the fate control social axiom increased from the parent to the offspring generation. Mother–offspring positional similarity was marginally significant in non-*zeitgeist* families and about twice as high as on average in the full sample.

Regarding the increased endorsement of the fate control axiom among the young, one might speculate that the world in a society undergoing rapid social change is experienced most unforeseeable in particular by the younger generation who has lived through a societal transformation phase during a critical life phase, i.e., adolescence. For them, resorting to beliefs in the controllability of fate may after all serve as a protective resource against the unpredictability of a rapidly changing world.

In summary, for both transcendental-type axioms a fairly high parent–child similarity was found for all types of similarity tested, particularly so in families that had endorsement scores of these axioms considerably off the grand mean of the sample.

For *social cynicism*, structural similarity between generations was small. Social cynicism appears to be defined idiosyncratically by each generation. Nevertheless, whether an offspring is or is not socially cynical is related to the degree of social

cynicism expressed by his or her mother. In spite of the fact that social cynicism is positionally somewhat stable between mothers and offspring, it is at the same time significantly higher in offspring than their mothers, reaching father levels which are considerably higher than mother levels, something also interpretable as a consequence of having to experience rapid social change during the “Storm and Stress” life phase of adolescence.

Reward for application reaches medium levels of structural intergenerational similarity. Intergenerational correlations are significant only for the mother–offspring dyad, and specifically for the mother–son dyad in *nonzeitgeist* families with little consensus between parents. There is no intergenerational mean endorsement level shift in reward for application. In summary, not much evidence for a sizeable family transmission of the reward for application belief was obtained beyond mothers’ and sons’ exhibiting some similarity in a subgroup of families.

Almost no sign of an intergenerational transmission of beliefs in social complexity was obtained: Medium structural similarity, no significant parent–offspring correlations, either in the full sample nor in subsamples split for offspring gender, parental consensus, or closeness/distance of a family to the *zeitgeist*. What was found was a strong increase from parents to offspring in the endorsement of social complexity beliefs. The world has obviously become much more complex for the young generation.

Conclusions

A first-glance attempt to evaluate the findings of the present study suggests that no strong indication for an intergenerational transmission of beliefs about human kind and the world was found. Only the two transcendent-type axioms, religiosity and fate control, exhibited substantial evidence for a fairly strong intrafamilial transmission of these beliefs.

However, the finding should not be taken to imply a universally weak intrafamilial transmission of beliefs. One has to remember that the data originate from Chemnitz, named Karl-Marx-Stadt from 1953 to 1990, an industrial center of the former German Democratic Republic, which ever since the political turn-about in 1989 has gone through an enormous societal and, in part, cultural transformation process. The real-socialist *Weltanschauung* that had dominated lives until 1989 has become obsolete, not only as a frame for everyday behavior but also as a more general outlook on life, most strongly so for the young generation. Since 1989, life has become more complex and unforeseeable; religion has become ideologically more acceptable, and the discrepancy between the aims of the “peaceful revolution,” as the overthrow of the Communist regime is sometimes called, and what West German capitalism has brought about, is quite substantial, making many people prone to become cynical about everyday lives.

Little intergenerational similarity in beliefs was the most likely finding of the study, given the rapid social change that East Germans had to experience. When one

keeps in mind this scenario, it is almost surprising that such a strong intergenerational similarity in the endorsement of religiosity was found. Even though there was an overthrow of a regime that derided religion as opium for the people, in line with the writings of Karl Marx, and enforced policies that were meant to suppress religious sentiments, people did not change their stance vis-à-vis religion all that much across generations: Those who had favored a religious view of life retained their convictions, as did those who endorsed an areligious, atheist position.

One must also mention that the sample under consideration is in and by itself not a middle-of-the-road sample in comparison to the 39 other countries for which data are documented by Leung and Bond (2007). While for *social cynicism* and for *reward for application* the family grand means (i.e., the averaged mean scores of all mothers, fathers, and offspring) deviate little ($p > .20$) from the unweighted grand mean of all countries documented (excluding Germany), scores for the other three social axioms deviate greatly from that grand mean ($p < .001$). The endorsement of the *social complexity* axiom is at the top of the scoreboard, so-to-speak, together with Norway, while for *religiosity* endorsement is at the lower end—together with Spain—as well for *fate control*—once again together with Norway.

All in all, data were presented from an unusual sample which exhibited fairly high continuity and stability for the two transcendental axioms, to return to Dusek and Flaherty's (1981) terminology, in combination with considerable intergenerational mean shifts, with higher scores in the younger generation for both transcendental axioms and for social complexity.

Eduard Spranger—Homo Religiosus: A Rejoinder

Eduard Spranger, one of the founding fathers of psychological research on values and beliefs, developed a typology of “types of men” in his monograph that in its German original had the literally translated title, “Forms of Life: Humanistic Psychology and the Ethics of Personality” (Spranger, 1914). In that book he delineated six forms of life: (1) the theoretical man (*homo theoreticus*), who is driven by the search for truth; (2) the aesthetic man (*homo aestheticus*), who is driven by the search for beauty; (3) the social man (*homo socialis*), who is driven by the search for love and proximity; (4) the economic man (*homo oeconomicus*), who is driven by the search for profit; (5) the religious man (*homo religiosus*), who is driven by the search for unity with his god(s); and (6) the political man (*homo politicus*), who is driven by the search for power. These forms of life are not meant to either distinguish basic value orientations or basic beliefs. Rather, as is the general thrust of the old German *geisteswissenschaftliche Psychologie*, these categories are meant to paint a holistic picture of outlooks on life that human beings can adopt. These types are by no means orthogonal: Every human being incorporates components of all types into his/her ways of living, but it is assumed that one of the basic orientations gains the upper hand in determining one's outlook on life, one's values, and beliefs.

A reappraisal of the results reported in the present chapter in light of Spranger's writings suggests that the *homo religiosus* outlook on life is most strongly transmitted in families, and particularly so in families with a nonmainstream conviction in the religious sphere, i.e., families highly religious or highly areligious in comparison to their contemporaries. This has similarly been shown for a study on value transmission, also using a sample from Chemnitz (Boehnke, 2004). There, tradition values *sensu* Schwartz were the value preferences that, together with power values, exhibited the highest intrafamilial stability. In the study of Leung et al. (2007) the correlation between the endorsement of the religiosity axiom and of tradition values *sensu* Schwartz was consistently highest across cultures for all correlations of values and axioms.

This commonality of results for traditional, largely religious values and religiosity beliefs lends plausibility to a final speculative hypothesis: The religious domain could be one, and maybe the only one, where values as subjective appraisals of how the world and the behavior of human beings in it *should be*, and beliefs as subjective appraisals of how human beings and the world *are* come closest, reflecting in a way the indiscriminability of *Menschenbild* and *Weltanschauung* that Eduard Spranger put forward.

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Processes of Transmission and Change of Social Axioms and their Behavioral Influence in Spanish Culture

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Abstract This chapter presents the results of two studies. In Study 1, we tested whether social axioms change across generations (i.e., younger than 20 vs. older than 40 years old), and whether social axioms are transmitted within the family context. In Study 2, we explored how social axioms are related to the fulfillment of a diverse set of social norms. The results of Study 1 showed an intergenerational change for the social axioms of Social Complexity and Religiosity (i.e., young generation reported a higher and lower endorsement, respectively) and a transmission from parents to their offspring for Social Cynicism, Fate Control, and Religiosity. The results of Study 2 showed that Social Cynicism is negatively related to compliance behavior. These results are coherent with both the psychological meaning of each social axiom and previous research about the relationship between values, social axioms, and behavior.

In his characteristically ironic style, Mark Twain described, over 130 years ago, a situation in which the transmission of values and beliefs takes place:

The prime feature of the evening was in order now—original “compositions” by the young ladies. Each in her turn stepped forward to the edge of the platform, cleared her throat, held up her manuscript (tied with a dainty ribbon), and proceeded to read, with labored attention to “expression” and punctuation. *The themes were the same that had been illuminated upon similar occasions by their mothers before them, their grandmothers, and doubtless all their ancestors in the female line clear back to the Crusades.* “Friendship” was one; “Memories of Other Days”; “Religion in History”; “Dream Land”, “The Advantages of Culture”; “Forms of Political Government Compared and Contrasted”; “Melancholy”; “Filial Love”; “Heart Longings”, etc., etc.” (*The Adventures of Tom Sawyer*, Mark Twain, 1876/2006, pp. 114–115; italics added)

We can easily imagine how before each presentation parents and their sibling carefully worked together on what was going to be recited in front of the rest of

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the community and how. Obviously this is only one of the many possible private and public situations in which values and beliefs are either implicitly or explicitly transmitted. Indeed, whereas we can expect a high agreement between the values and beliefs expressed by the daughters on their “original compositions” and those endorsed by their mothers, this agreement may be considerably lower when the daughters are privately talking with their friends. Otherwise change will never happen.

As Boehnke (2001) notes, the topic of value change has received attention from several researchers, though from different perspectives. For example, the work of Inglehart (1990, 1997) and Abramson and Inglehart (1995) and of Huntington (1996) has focused on value change as a general phenomenon that takes place in a societal context, while other authors have focused on how the values are transmitted by specific institutions, predominantly by the family (e.g., Rohan & Zanna, 1996). Boehnke offers a comprehensive summary of these two approaches (see also Boehnke, this volume).

From Values to Social Axioms

Values have been and continue to be important constructs in social psychology. However, in the last decade, a group of researchers led by Leung and Bond (for a review of this research program see Chap. 1, this volume) have proposed the use of general beliefs, or social axioms, to complement cross-cultural work on values. Following Leung et al.'s (2002) work, social axioms are described as general beliefs that can be considered as “generalized expectancies”—a concept introduced by Rotter (1966) to characterize locus of control. The label “social axioms” highlights the position that these general beliefs, like axioms in mathematics, are basic premises that people endorse in their everyday lives. These premises concern relationships between different entities; however, their content refers not to numerical entities, but to social ones. The relationship between the entities may be causal or correlational. Therefore, social axioms differ from values, which assume the form, “A is good/desirable/important,” and from normative beliefs, which are prescriptive in nature, e.g., “We should help the poor.”

Through qualitative research conducted in Hong Kong and Venezuela (Leung et al., 2002), and quantitative research covering 41 cultures (Bond et al., 2004b), these researchers have identified five general social axioms: Social Cynicism, Social Complexity, Reward for Application, Religiosity, and Fate Control. Social Cynicism refers to a negative view of human nature, a biased view against some groups of people, a mistrust of social institutions, and a disregard for ethical means of achieving any given end. Social Complexity refers to the belief in multiple ways of achieving a given outcome and the agreement that human behavior is inconsistent across situations. Reward for Application refers to a general belief that effort, knowledge, and careful planning will lead to positive results. Religiosity (called Spirituality in the earliest study) refers to a belief in the reality of supernatural

forces and the positive social and personal functions of religious beliefs and institutions. Finally, Fate Control refers to a belief that life events are predetermined and that there are ways for people to influence fated outcomes.

Once these five general social axioms had been identified through the use of the Social Axioms Survey (SAS), these authors carried out research in which they tested their utility for revealing a culture-level structure across 41 nations (Bond et al., 2004b) and their relationship with values across five different cultural groups (Leung et al., 2007). Furthermore, going beyond the analysis at the culture level, Bond, Leung and associates have tested whether these social axioms are useful in predicting individual behavioral tendencies, such as negotiation style (Bond, Leung, Au, Tong, & Chemonges-Nielson, 2004a).

Combining the perspectives related to the constructs of values and social axioms, the present chapter has two goals: first, to analyze if social axioms change across generations and if they are transmitted within the family context; second, to test whether social axioms are useful to predict the individual behavioral tendency of fulfilling the norms that regulate a society.

Study 1: Change and Transmission of Social Axioms

In Study 1, we tested whether social axioms change across generations and whether they are transmitted within the family context. The procedure used in this study is partially based on that used by Boehnke (2001). That author asked a sample of university students and their parents to complete the Schwartz (1992) Social Value Survey and analyzed the process of parent–offspring value transmission by forming student–father–mother triads and testing the pattern of differences and correlations on the reports of the 10 Schwartz’s value types: universalism, benevolence, tradition, conformity, security, power, achievement, hedonism, stimulation, and self-direction.

With respect to the value change, Boehnke (2001) identified an intergenerational trend from greater importance of Conservation values in parents toward greater importance of Openness to Change values in offspring. Specifically, the values of tradition, conformity, and security had lower means among the offspring than among the parents, while the opposite was true for the values of hedonism, stimulation, and self-direction—which obtained relatively higher means among the offspring. With respect to value transmission within the family context, Boehnke (2001) found evidence for the transmission from parents to their offspring of the values of power, tradition, hedonism, stimulation, and self-direction.

Study 1 was a first test of whether the process of change and familial transmission of social axioms follows a similar pattern to that obtained by Boehnke (2001) with respect to social values.

Participants and Procedure The participants in Study 1 were 177 Spaniards (118 women, 56 men, and 3 unspecified) who completed the 82-item version of the SAS.

Response options for each of the 82 items were on a 5-point scale (1 = *strongly disbelieve*, 2 = *disbelieve*, 3 = *no opinion*, 4 = *believe*, and 5 = *strongly believe*). This Spanish version resulted from applying the back-translation technique to the English version.

We asked the assistance of a group of students that were taking an introductory Psychology course at the Autónoma University in Madrid, Spain. This group was asked to take at least one copy of the SAS for themselves and at least one for one of their parents. Most students took three surveys. In order to carry out the parents–offspring matching, the students were asked to write down a common key-code on their own copy of the survey and the one completed by parents. We then created four groups according to age and whether at least one parent had also completed the survey. The groups were as follows: 40 offspring (29 women and 11 men), 55 other young people (40 women, 14 men, and 1 unspecified), 58 parents (33 women and 25 men), and 21 other adults (14 women, 5 men, and 2 unspecified). Three participants were excluded because it was not possible to classify them. Most offspring and young people were under 20 years old (79%) and most parents and adults were aged between 40 and 60 (81%).

Creation of the five Social Axioms scales was based on the previous analysis by Leung et al. (2002), on an examination of factorial loadings resulting from principal components analysis with varimax rotation conducted on the 82 items in our SAS, and on an examination of the correlation of each item with the theoretical scale (Cronbach alpha analysis). This resulted in the following five scales: Social Cynicism (16 items, $\alpha = 0.74$), Social Complexity (5 items, $\alpha = 0.63$), Reward for Application (9 items, $\alpha = 0.64$), Religiosity (8 items, $\alpha = 0.82$), and Fate Control (6 items, $\alpha = 0.65$). Overall, the α s were not very high, though they were in line with those of previous studies (Leung et al., 2007; Bond et al., 2004a).¹

Intergenerational Change In order to analyze intergenerational change within and outside of the family context, we considered two variables: the relationship between the respondents (i.e., intrafamily vs. nonrelated) and generation (i.e., young person vs. adult). This allowed us to test whether there was an overall difference between those who were in different generations (i.e., young people vs. adults) and, importantly, whether such a difference followed a similar pattern within the family context (i.e., offspring vs. parents).

Hypotheses Bearing in mind the novelty of this type of analysis, our hypotheses are tentative and mainly based on the results from Boehnke (2001) and Leung et al. (2007). Boehnke's study is a helpful reference as a first attempt to analyze intergenerational difference, just as is Leung et al.'s (2007) work as a first systematic

¹Regarding the relationship between our scales and the five-factor solution obtained by Leung et al. (2002), 15 out of the 16 items of our Social Cynicism scale had the highest loading in the homonymous factor obtained by Leung et al. (2002); this was also the case for the five items of our Social Complexity scale, seven out of the nine items of our Reward for Application scale, five out of the eight items of our Religiosity scale, and the five items of our Fate Control scale. As regard as those six items that did not have a loading in the homonymous factor, this was because they were not included in the Leung et al. (2002)'s five-factor solution.

attempt to analyze the relationship between the constructs of values (from Schwartz's approach) and social axioms. A notable difference in the case of our work (apart from the obvious ones related to time, population, and content) is that our sample includes both intrafamily and nonrelated participants, while Boehnke's sample included only intrafamily participants (i.e., offspring vs. parents).

As aforementioned, Boehnke found an intergenerational trend from greater importance of Conservation values in parents toward greater importance of Openness to Change values in offspring. This pattern led him to conclude that, "Intergenerational value change is obviously strongest for openness versus conservation values, and intergenerational value stability is stronger for self-transcendence versus self-enhancement values." (Boehnke, 2001, p. 247)

Using Schwartz's SVS to measure the values, Leung et al. (2007) analyzed the relationship of social axioms with values across five different cultural groups. They found an overall but small overlap between the two constructs. However, they also found some significant relationships that may help us develop our hypotheses. Overall, Fate Control and Religiosity correlated positively with Conservation values (mainly tradition and conformity), and negatively with Openness to Change values (self-direction, hedonism, and stimulation); and Social Complexity correlated positively with Openness to Change values (mainly self-direction), and negatively with Conservation values (mainly tradition).

Therefore, based on both Boehnke (2001)'s and Leung et al. (2007)'s results, we set three hypotheses: We expect that young people will obtain lower scores than adults on Fate Control and Religiosity because these social axioms are positively correlated with Conservation values and negatively with Openness to Change, whereas we expect that young people will obtain higher scores on Social Complexity because this social axiom is positively correlated with Openness to Change values and negatively with Conservation values. We do not have hypotheses for Social Cynicism and Reward for Application because the pattern of correlations does not permit clear predictions in their cases.

Results As mentioned before, the general sample included 98 intrafamily members (40 offspring and 58 parents) and 76 nonrelated members (55 young people and 21 adults). We tested these hypotheses by conducting a 2 (relationship: intrafamily vs. nonrelated) \times 2 (generation: young people vs. adults) ANOVA on each of the five social axiom scales. Through this design we could also test whether the predictions were confirmed in both intrafamily and nonrelated contexts.

Table 1 shows the means and standard deviations of the five social axiom scales across the four conditions. Unless otherwise stated, unreported main or interaction effects were not significant, and comparisons were two-tailed.

With regard to Fate Control, a 2 \times 2 ANOVA showed a significant main effect for generation in the expected direction; young people scored lower ($M = 2.34$) than adults ($M = 2.63$), $F(1, 168) = 6.15$, $p < .02$. As regards Religiosity, the 2 \times 2 ANOVA showed a marginal main effect for generation in the expected direction, with young people scoring lower ($M = 2.52$) than adults ($M = 2.76$), $F(1, 168) = 3.53$, $p = .06$.

As far as Social Complexity is concerned, the 2 \times 2 ANOVA showed a more complex pattern. First, there was a significant main effect for generation in the

Table 1 Study 1: Means and (standards deviations) for social axioms across the relationship and generation

Social axioms	Intrafamily		Nonrelated	
	Youngsters (offspring)	Adults (parents)	Youngsters	Adults
Fate Control	2.45 (0.59)	2.64 (0.65)	2.27 (0.55)	2.58 (0.71)
Religiosity	2.51 (0.65)	2.78 (0.72)	2.52 (0.77)	2.71 (0.67)
Social Complexity	4.20 (0.38)	3.76 (0.47)	4.17 (0.36)	4.02 (0.25)
Reward for Application	3.61 (0.41)	3.44 (0.48)	3.51 (0.48)	3.33 (0.42)
Social Cynicism	2.90 (0.50)	2.95 (0.48)	2.77 (0.42)	2.98 (0.61)

expected direction: Young people scored higher ($M = 4.18$) than adults ($M = 3.83$), $F(1,168) = 20.10$, $p < .001$. Second, a significant interaction between relationship and generation was found, $F(1,168) = 4.92$, $p < .03$. As can be seen in Table 1, this interaction was due to the fact that the difference was considerably larger between offspring and parents ($M_s = 4.20$ and 3.76 , $t(94) = 4.81$, $p < .001$) than between the nonrelated young people and adults ($M_s = 4.17$ and 4.02 , $t(74) = 1.72$, ns).

Regarding Reward for Application, the 2×2 ANOVA showed that young people scored higher ($M = 3.56$) than adults ($M = 3.41$), $F(1,159) = 5.53$, $p < .03$. As regards Social Cynicism, the 2×2 ANOVA did not show any main or interaction effects.

To summarize, overall the results supported an intergenerational change in the expected direction for those social axioms most closely related to Schwartz's Openness–Conservation dimension of values (Boehnke, 2001; Leung et al., 2007). A closer inspection of Table 1 shows that our results supported the presence of this intergenerational change within the family context for Social Complexity ($M_s = 4.20$ and 3.76 for offspring and parents, respectively, $t(94) = 4.81$, $p < .001$), and partially for Religiosity ($M_s = 2.78$ and 2.51 for offspring and parents, respectively, $t(93) = 1.83$, $p = .07$). The results also suggested an intergenerational change for Reward for Application, which was more strongly held in young people than in adults. Finally, we found no significant effect of the context (i.e., related vs. nonrelated): overall there were no significant differences among young people, regardless of whether they were in the intrafamily or nonrelated conditions, and the same case was true for adults. This lack of difference rules out any spurious effect related to selection of the samples.

Intrafamily Transmission of Social Axioms In order to test whether and how social axioms are transmitted within the family context, we performed an analysis similar to that of Boehnke (2001). As aforementioned, we asked the students to complete one SAS and take another one for their father or mother, or both; consequently, our intrafamily sample was of 40 offspring (29 daughters and 11 sons) and 58 parents (33 mothers and 25 fathers), who formed 30 dyads of mother–offspring and 23 dyads of father–offspring. We therefore focused on analyzing transmission to their offspring from fathers and mothers separately. The characteristics of the sample did not allow us to perform a reliable analysis of the specific relationships of mother–daughter, mother–son, father–daughter, and father–son.

Hypotheses As far as intrafamily transmission is concerned, we predicted a significant parents–offspring correlation for Social Cynicism, Fate Control, and Religiosity. These predictions were again based on Boehnke’s (2001) and Leung et al.’s (2007) previous results. First, Boehnke found significant parent–offspring correlation for the power value (mainly in same-gender dyads), and Leung et al. found the predicted correlation between this value and Social Cynicism. Second, Boehnke found a significant parent–offspring correlation for tradition, hedonism, and stimulation and a moderate correlation for self-direction; Leung et al. found the predicted correlations of these values with Religiosity and Fate Control.

Results We calculated the correlations for the offspring with their father and mother separately. The sample sizes of the analyses vary because some participants did not complete all the items included in the SAS and, consequently, some of the five scales could not be obtained for these participants. As can be seen in Table 2, for Social Cynicism the father–offspring correlation was significant [$r(20) = 0.54$, $p < .02$] and the mother–offspring correlation was positive but nonsignificant [$r(28) = 0.10$, $p > .60$]; for Fate Control we found marginal father–offspring [$r(21) = 0.35$, $p = .10$] and significant mother–offspring [$r(28) = 0.45$, $p < .02$] correlations; and for Religiosity we found significant father–offspring [$r(19) = 0.51$, $p < .02$] and mother–offspring [$r(26) = 0.45$, $p < .02$] correlations. The rest of the correlations did not attain significance, $ps > .33$.

In sum, the results regarding intrafamily transmission revealed a pattern consistent with those previously found in studies on value transmission (Boehnke, 2001) and the relationship between values and social axioms (Leung et al., 2007).

Social Axiom Climate As an additional exploratory analysis, we analyzed the possible existence of a social climate regarding any of the five social axioms. Reasoning that a high similarity in the endorsement of a specific social axiom may reflect the existence of a social climate, we tested whether such similarity prevailed across the different social groups that formed our sample. Namely, our sample could be divided into eight groups according to their kinship (related, nonrelated), age (young, adult), and gender (female, male): 29 daughters and 11 sons, 33 mothers

Table 2 Study 1: Zero-order correlations for the intrafamily context

	Father–offspring	Mother–offspring	Father–mother
Social Cynicism	0.54** (22)	0.10 (30)	0.62*** (18)
Social Complexity	0.07 (23)	0.14 (29)	–0.11 (18)
Fate Control	0.35 (23)	0.45** (30)	0.35 (19)
Reward for Application	–0.20 (21)	–0.20 (26)	0.71*** (17)
Religiosity	0.51** (21)	0.45** (28)	0.65*** (19)

Note: Numbers in parentheses refer to sample sizes. * $p < .10$, ** $p < .05$, *** $p < .01$.

Table 3 Study 1: Means for social axioms across the seven groups

	Social Cynicism	Social Complexity	Fate Control	Reward for Application	Spirituality
Daughters	2.84 _a	4.27 _c	2.49 _{ab}	3.56 _{ab}	2.63 _{ab}
Sons	3.10 _a	3.98 _{bc}	2.35 _{ab}	3.74 _b	2.23 _a
Female youngsters	2.74 _a	4.21 _{bc}	2.21 _a	3.48 _{ab}	2.47 _{ab}
Male youngsters	2.86 _a	4.01 _{bc}	2.38 _{ab}	3.58 _{ab}	2.62 _{ab}
Mothers	2.99 _a	3.65 _a	2.70 _{ab}	3.41 _{ab}	2.96 _b
Fathers	2.89 _a	3.90 _{ab}	2.57 _{ab}	3.47 _{ab}	2.54 _{ab}
Female adults	3.02 _a	4.00 _{bc}	2.76 _b	3.20 _a	2.77 _{ab}

Note: Within each column, those values with different subscripts are significantly different (Waller–Duncan post hoc tests, $p < .05$). The highest and lowest values are bolded.

and 25 fathers, 40 female young people and 14 male young people, and 14 female adults and 5 male adults.

Results For each social axiom, we conducted the Waller–Duncan post hoc tests ($p < .05$) to analyze the pattern of differences between the seven groups that formed our sample. The male adults group was excluded from these analyses because the number of participants (5) did not allow conducting reliable tests.

As it can be seen in Table 3, a pattern of similarity prevailed for Social Cynicism: the means were moderate and we did not find any significant difference between the seven groups. In contrast, this pattern of similarity was not found for Social Complexity: the highest endorsement reported by the daughters ($M = 4.27$) was significantly different than both their mothers ($M = 3.65$) and fathers ($M = 3.90$), and the lowest endorsement reported by the mothers ($M = 3.65$) was significantly different than five out of the other six groups.

Regarding the other three social axioms, a moderate pattern of similarity was found. In all these cases, six out of the seven social groups did not differ in their level of endorsement of a specific social axiom, being significant only the difference between the reported highest and lowest endorsement: for Fate, between female adults ($M = 2.76$) and female young people ($M = 2.21$); for Reward for Application, between the sons ($M = 3.75$) and the female adults ($M = 3.20$); and for Spirituality, between the mothers ($M = 2.96$) and their sons ($M = 2.23$).

General Implications of Study 1 Overall, the results showed a pattern consistent with that found in previous studies (Boehnke, 2001; Leung et al., 2007). The results basically support two processes related to social axioms change and transmission: First, there seems to be an intergenerational change in the expected direction for those social axioms most closely related to Schwartz's Openness–Conservation dimension of values. Young people seem to move toward closer to Openness to Change (i.e., higher scores on Social Complexity) and away from Conservation (i.e., lower scores on Religiosity). Second, the results support parents–offspring transmission in those social axioms less strongly endorsed by parents (i.e., Social Cynicism, Fate Control, and Religiosity). Furthermore, with the exception of Social Complexity, the results showed a moderate pattern of similarity in the level

of endorsement of the social axioms reported by the seven different social groups that formed our sample. Pending on further research, this suggests the presence of a general social axiom climate in the Spanish society.

Study 2: Behavioral Influence of Social Axioms

Do those who endorse a specific social axiom fulfil social norms more than those who do not? We conducted Study 2 to answer this question. On this occasion we set our hypotheses on the basis of the study by Bond et al. (2004a), who tested the relationship between social axioms and styles of conflict resolution and coping. These styles refer to how people deal with situations in which they have to negotiate with another entity that may have different goals. Normative behavior is related to decisions made in a social context which involves a relationship with either a group or an institution, and one's own preferences may conflict with those of these groups or institutions. We therefore considered Bond et al.'s study to be a valid reference for setting our hypotheses. These authors found that Reward for Application was positively related to an accommodative style; Social Cynicism was negatively related to the use of the collaborative and compromising styles; Social Complexity was positively related to the use of compromise and of collaboration; Religiosity was positively related to both accommodation and competition; and Fate Control was positively related to distancing (i.e., a coping style characterized by being passive and the avoidance of thinking about difficulties). As is specified below, we based our thinking on these results to set our hypotheses about the relationship between social axioms and normative fulfillment.

Participants and Procedure The participants in Study 2 were 49 undergraduate students (26 female and 23 male) taking an introductory Psychology course at the Autónoma University in Madrid, Spain. During lecture time they voluntarily completed the 82-item Spanish version of the SAS used in Study 1, together with a questionnaire in which they were asked to report to what extent they fulfil a set of nine social norms by their behavior (1 = *not all*, 4 = *moderately*, and 7 = *extremely*). This set included formal rules that are enforced by the legal system (e.g., not exceeding the speed limit, not driving under the alcohol influence), and social norms related to environmental behavior (e.g., not using sprays that damage the ozone, not dropping litter).² By age, 39% were aged 20 or less, 55% were aged 21–30, and 6% were aged 31–50.

²The original questionnaire included 20 norms. A principal components analysis with varimax rotation showed a five-factor solution that explained 64% of the total variance. Namely, one “general compliance factor” that contained the diverse set of nine norms included in Study 2; and four other factors each containing a small number of very specific norms. In order to obtain a reliable scale of “general compliance,” we decided to work with the nine norms contained in the first factor; in any case, the pattern of results did not vary when all the norms were included.

We drew up five scales based on those used in Study 1, namely, Social Cynicism (16 items, $\alpha = 0.73$), Social Complexity (5 items, $\alpha = 0.35$), Reward for Application (9 items, $\alpha = 0.65$), Religiosity (8 items, $\alpha = 0.72$), and Fate Control (5 items, $\alpha = 0.57$). Therefore, the Cronbach's α s for Social Cynicism, Reward for Application, and Religiosity were similar to those of Study 1, and in line with previous research (Bond et al., 2004a; Leung et al., 2007). Regarding Social Complexity and Fate Control, for exploratory purposes, we decided to include them in the analyses despite their low α s; there were not negative item-whole correlations for any of the five scales.

Hypotheses Based on the results obtained by Bond et al. (2004a) we predicted that overall compliance with norms would be negatively related to Social Cynicism, because this social axiom seems to be associated with a lower tendency to use collaborative and compromising styles in order to adapt one's preferences to external constraints (i.e., norms). Regarding Reward for Application, this social axiom might be positively related to overall compliance, because it seems to be associated with an accommodative style; nevertheless, the extent to which such accommodation permits attainment of the goals may powerfully moderate such a relationship. As we lacked information on this issue, this hypothesis is more tentative than the previous one. As far as Religiosity, Fate Control, and Social Complexity are concerned, either the pattern of relationships or the low α s did not permit us to make clear predictions.

Results We aggregated the reports on the nine social norms to form a "general compliance scale" (Cronbach's $\alpha = 0.91$) and obtained the correlations of this scale with each of the social axiom scales. As expected, we found a negative and significant correlation of the "general compliance scale" with Social Cynicism, $r(45) = -0.291$, $p < .05$. The partial correlation analysis showed that this correlation remained significant when the age was introduced as control, $r(42) = -0.286$, $p = .05$. The correlations with Social Flexibility [$r(45) = 0.168$], Fate [$r(46) = -0.193$], Reward for Application [$r(44) = -0.184$], and Religiosity [$r(44) = -0.022$] did not reach significance, $ps > .20$. The degrees of freedom vary because three participants did not complete some of the items included in the social axioms scales.

Implications of Study 2 The results of Study 2 supported our main hypothesis: Those who showed a higher degree of Social Cynicism obtained a lower value on that scale related to the degree of compliance of a diverse set of nine norms involving behaviors such as driving drunk, throwing trash on the street, wasting water, using sprays that damage the environment, driving above the speed limit, and so on. This result is consistent with the findings of Bond et al. (2004a) about the negative relationship of this social axiom with those negotiation styles (i.e., collaborative and compromising) that involve an attempt to consider and adapt to the other party's goals. In the normative behavioral context, the other party is the representative of the institution that tries to impose some social order. Indeed, as Social Cynicism implies a mistrust of social institutions and a disregard for ethical means of achieving one's own ends, this result is also coherent with the general model of social axioms presented in Leung and Bond (2004).

Conclusions

In the pioneer work about social axioms, Leung et al. (2002) claim that this new construct may serve at least two purposes: to yield information about cultural variation that cannot be detected by the value perspective and to provide the needed triangulation for well-known results based on values. The primary goal of the Study 1 was to add empirical evidence related to such triangulation on the specific topics of social change and transmission. Furthermore, as one function of social axioms is to guide behavior, in Study 2 we tested this function regarding a particularly relevant social behavior, i.e., normative compliance.

Change and Transmission of Social Axioms Religiosity refers to the belief on the existence of supernatural forces and the positive function of religious faith, and Fate Control to the belief on a fate that predetermines our life events and the chance to either know or influence such fate. The results of Study 1 showed that these two social axioms are less strongly held by the younger generation than by the older one. It is noteworthy that most older-generation participants were born between the years of 1945 and 1955, which means that they spent all their childhood and adolescence under a conservative political regime that declared itself as Catholic—Franco's dictatorship that ended in 1975; whereas most of the younger-generation participants were born around 1980, so they grew up under a democracy which explicitly declared the independence between government and any particular religion. This societal factor may partially explain the intergenerational difference in those social axioms. Nevertheless, the results of Study 1 also suggest that Religiosity and Fate Control may be transmitted within the family context: both the correlations between parents (spouses) and between them and their offspring were significant. In line with Boehnke (2001)'s results, this indicates that societal value change and intrafamilial value transmission are separate processes; parents can transmit a specific social axiom to their offspring (e.g., Religiosity) and, simultaneously, subsist a significant difference in the level of endorsement of such axiom. The analysis of this dual process may open interesting lines of future research.

Regarding Social Complexity (i.e., the belief that the social world is complex and unstable, without being ruled by general principles that always work and formed by people who show contradictory behavior across different situations) and Reward for Application (i.e., the belief that effort, knowledge and careful planning will lead to positive results), the results of Study 1 showed that these social axioms are more strongly held by the younger generation than by the older one. Furthermore, these two social axioms do not seem to be transmitted from parents to their offspring.

With respect to Social Cynicism (i.e., a general negative and biased view of human nature, specific groups of people, social institutions, and ethical means), the results of Study 1 showed that this social axiom is at a moderate level and is stable across the groups that differ in kinship, age, and gender; this suggests the possible existence of a social climate regarding this axiom. The results also suggested a certain degree of transmission within the family context: both the correlations

between parents (spouses) and between fathers and their offspring were significant. Furthermore, the results of Study 2 showed that this social axiom may be particularly interesting for its relationship with normative compliance.

Normative Compliance If a person has a negative view about human nature, does not trust social institutions, and disregard ethical means for achieving an end (Social Cynicism), we can expect that he/she will show a lower inclination to fulfill social norms. This was indeed what the results of Study 2 showed. Furthermore, these results showed that this negative association between normative compliance and Social Cynicism was found at a more general level: The correlation was significant with a scale that measured the level of compliance with respect to a diverse set of formal and social norms. This is consistent with the characterization of social axioms as general beliefs that may guide general social behavior.

It should be noted that the studies presented in this work have at least two limitations: the sample sizes are small and the alphas of the scales are moderate. Both considerations may have decreased the chance of finding significant relationships. Future research should address these issues. However, even with these limitations, we have found new empirical evidence that is consistent with previous research on values and suggestive of the possible influence of social axioms on some relevant social behavior. We think that consistence with previous findings and usefulness in explaining social behavior are two important reasons why social axioms are likely to be an important construct in the psychological arena.

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Section C
Nomological Network of Social Axioms

Linking Social Axioms with Behavioral Indicators and Personality in Romania

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Abstract This study examined the relationship between the social axioms identified by the SAS (Social Axioms Survey, Leung et al., 2002) and various dispositions of personality and behavioral outcomes. Specifically, in this study, the SAS is related to a conjoint effort of the California Psychological Inventory (Gough & Bradley, 1996), the State-Trait Anxiety Inventory (STAI), and the State-Trait Anger Expression Inventory (STAXI-2), these evaluations being especially prone to elicit interesting results when brought into relation with social axioms. Behavioral indicators fall into three different areas: (a) cooperative relationships (self-reports of interpersonal conflict, teamwork, and participative decision making and self-reports of number of friends), (b) health and safety behaviors (Type A Behavior Pattern, self-reports of general health, of medication intake, visits to doctor, and of counseling sessions), and (c) life satisfaction.

Keywords: Social axioms, personality traits, behaviors

In 1871, Tylor defined culture as a structure including information, beliefs, art, moral values, laws, and representations which are spontaneously acquired and interiorized/assumed by the members of a community during the process of socialization. In other words, permanent characteristics or the specific practices of a culture will structure and guide the socialization process (Vygotsky, 1978; Bond, 2005). The process of integration or socialization of a child is, in fact, the effect of his/her needs and abilities on one hand, and the effect of the rules of the society in which he/she grows up on the other hand. Therefore, the structure of his/her interpersonal relations and of his/her social behavior reveals elements pertaining to the culture of his/her socialization.

It is culture which allows the distinction between “us/we” and “others.” “Us/we” represents, from the emotional and cognitive point of view, what is familiar and

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comfortable; “others” represents what is different and unfamiliar. This is a mental attitude which separates “us” from “others,” generating two categories: the “in-group” (ours) and the “out-group” (theirs). Comparisons with the out-group help define the in-group (Garcea, 2005). Each group has its own cultural organization and certain rules which, as we have previously mentioned, are transmitted or inherited through generations. Behaviors are influenced by and reflect not only values, viz., what is good, what is bad, what is allowed, and what is not allowed, but also beliefs, “which are attitudes through the authority of which a statement or a fact is thought to be true, although there is not any objective and acceptable demonstration of the respective attitude.” (Larrousee, *The large dictionary of psychology*, 2007, p. 282).

This specification is necessary because, in spite of all the complementarities registered in the 1970s, we witness recent debates between the adepts of the cultural psychology movement and those of the “new-comer,” cross-cultural psychology. If cultural psychology explains the functioning of human personality in a national community, with no intercultural comparisons, cross-cultural psychology is concerned with ways of explaining and of describing behavior and personality with the purpose of establishing universal patterns (Lonner, 2000). The same author states that,

Cross-cultural psychologists seem to be looking for the simplest way to explain the enormous complexities of thought and behavior, at the same time embracing the way that such patterns can be interpreted in culturally specific ways. Cultural psychologists seem to be searching for reasons why it is inappropriate to reduce thought and behavior to some kind of simple structure, eschewing comparatives (Lonner, 2000, p. 34–37).

Russell (1996) regards a belief as a statement constituting cognition, and implying a subject, an object, and a relation linking them. The verbs which express beliefs, such as “to believe,” “to think that,” “to estimate that,” describe a certain type of relation between the individual (his/her way of thinking) and the statement linking the subject and the object. In social psychology, beliefs have been studied in relation with attitudes. The cognitive component of attitude is regarded as the main content of beliefs. Potentially, beliefs have a collective background/base/character and are organized in coherent systems, such as systems of representation of the world or of social issues.

Deconchy (1987) describes four types of research on beliefs, namely: the monographic description of the beliefs of different categories of people concerning various objects; the determining of the way in which certain constant structures of personality may determine the content of beliefs; the description of the basic belief which is the foundation of secondary systems of beliefs and which generates secondary systems of beliefs; and the way in which beliefs function as “cognitive filters” in processing information (Aebischer, Deconchy, & Lipiansky, 1991).

Until the 1990s, the concept of value was frequently used in cross-cultural psychology to explain cross-cultural differences (e.g., Hofstede, 1980; Schwartz, 1994; Smith, Dugan, & Trompenaars, 1996). Later on, the concept of belief has gained importance. The studies coordinated by Leung and Bond have enabled the validation of a concept called “social axiom,” referring to general beliefs that can be cross-culturally (pan-culturally) applied. Social axioms are generalized

beliefs about other people, the social environment or the spiritual and physical world, and are central in a person's belief system. Their function is to ensure the person's survival and effective functioning in his/her social and physical environment. They can also be defined as archetypes or transgenerationally transmitted expectations.

Social axioms are general, context-free beliefs that people hold as a result of their socialization experiences. These beliefs are central to people's cognitive functioning. Following the work done in the attitude area, we follow a functionalist approach and assume that they are related to human survival and functioning (Katz, 1960; Kruglanski, 1980). Like attitudes, social axioms have four functions, namely: "They facilitate the attainment of important goals (instrumental), help people protect their self-worth (ego defensive), serve as a manifestation of people's value (value-expressive), and help people understand the world (knowledge)." (Leung et al., 2002, p. 288)

This concept allows for the description of the characteristics of a community or of a group in a different way than by using values. Leung et al. (2007) show that the relation between values (Schwartz, 1992) and axioms is generally low, suggesting that they represent two distinct types of construct. The relations between the two concepts are similar and modest across several cultural groups.

Beliefs can also be used as ways of describing a given culture; they can pinpoint ethnic differences and researchers view variability in the level of this construct as providing excellent ways for describing cultures, for ranking them on particular characteristics or dimensions, and sometimes predict in these cultures aspects of social behavior, based on individual-level measurement (Singelis, Hubbard, Her, & An, 2003).

The predictive capacity of social behavior by axioms was studied in relation to values: "Regression analyses showed that the addition of social axioms added predictive power for task-oriented vocational interests, and the conflict resolution styles of cooperation and of competing over and above that provided by values. These results stimulated discussion about the role of beliefs in guiding behavior and their complementary role along with values in explanations of behavior." (Bond, Leung, Au, Tong, & Chemonges-Nielson, 2004, p. 180)

The Romanian Cultural Context

Romania is situated in the southeastern part of Central Europe, with a population of almost 22 million. Ethnic breakdown is 89% Romanians, 7.5% Hungarians, 1.9% Romany (gypsies), Ukrainians, Germans, Russian-Lipovenians, Turks, Tartars, Serbians, and Slovaks. The official language is Romanian, while German and Hungarian are spoken in some counties (in school and civil administration). Romania's history has not been idyllic over the centuries. Romania's historical provinces Walachia and Moldova offered resistance to the invading Ottoman Turks; the third province, Transylvania, was successively part of the Habsburg or Ottoman

Empires or under Wallachian rule. Romania's post WWII history was shaped by its alliance with the communist-block. After 1989, the newly adopted Constitution ranked Romania as a republic with a multiparty system, market economy, and individual rights of free speech, religion, and private ownership.

For many centuries, Romania's economy was based on agriculture. In the 1950s, the communist system implemented and developed heavy industry as a major growth sector of the economy. There has been a subsequent shift towards heavy industries since the 1970s, but agriculture is still economically important and employs about one-third of the workforce (Anuarul Statistic al Romaniei, 2005).

Looking at the history of Romania, we presume that the beliefs of its citizens, as well as their values, are influenced by the ideologies of the different social systems that have functioned in this country over the centuries. In this context our study analyzed the relations between social axioms, personality characteristics, and behavior with the aim of describing the specific patterns associated with the five dimensions of beliefs.

Our study follows the cultural approach to personality and represents a first attempt in Romania to validate the social axioms questionnaire. The theme pertains to cultural psychology, proposing a validation of axioms within a particular cultural context, Romania, and an examination of their predictive capacity of social behaviors.

Method

The present study is fundamentally a study of convergent and discriminant validation. The Social Axioms Survey was administered to a sample of participants, together with four structured questionnaires measuring different personality dimensions, as well as with a behavioral check-list, aiming at ascertaining the propensity of participants to engage in certain behaviors. The validity of the measure for social axioms is investigated by examining its conceptual validity, the way the collected data fit the five-factor model of social axioms, and its correlations with personality dimensions.

Participants

This study is based on an initial sample of 1,261 participants who completed the Social Axioms Survey. These participants responded to the measures briefly discussed below. Due to incomplete data, only 837 (66.38%) were used in the final analysis and a further 41 were dropped to mirror the distribution of the population of Romania. The final sample contains 796 participants, with a distribution representative for the population of Romania.

Among the 796 participants, 393 (49.37%) were male and 403 (50.63%) were female, 263 (33.04%) had elementary education, 213 (26.76%) had medium education, 251 (31.53%) had graduate studies and 69 (8.67%) had postgraduate studies. Ages ranged from a minimum of 18 to a maximum of 71 years ($m = 38.31$, $SD = 5.58$). Geographical distribution was rather uniform and the urban/rural ratio was about half, as 419 (52.64%) participants come from urban and 377 (47.36%) from rural areas.

Measures

The data set is based on a large number of measures, including both questionnaires and self-reported behavioral indicators. Data were collected through self-administration in a typical panel research frame, across a time span ranging from a minimum of 2 days to a maximum of 18 days ($m = 9.98$, $SD = 4.42$).

Social axiom data were collected with the 60-item version of the Social Axioms Survey (Bond & Leung, 2004). The SAS has been developed by Leung and Bond, with the intention of offering a cross-culturally valid measure of socially constructed beliefs. The 60 items of the SAS collect data using five-point Likert scales tapping the five major social axioms: Social Cynicism, Social Complexity, Reward for Application, Religiosity, and Fate Control.

The personality data collected were based on one broadband personality inventory, one work style inventory, and two state-trait inventories used mainly in clinical research. All have been adapted and normed in Romania, and are widely used in this cultural context. The California Psychological Inventory (CPI—Gough & Bradley, 1996) is a major broadband measure of personality. The inventory has been used in its 434-item form, as the last 260-items are intended for use in organizational settings and are less suited for the present research. The CPI is an omnibus measure, employing a yes/no format and including 20 folk scales, three vector scales, and a large number of supplementary scales, nine of which were used in the present study.

The SWS, Survey of Work Styles (Jackson & Gray, 1993), is a 96-item measure of six behavioral preferences, associated with the Type A Behavior Pattern. The six subscales are Impatience, Anger, Work Involvement, Time Urgency, Job Dissatisfaction, and Competitiveness, but the SWS also yields an overall Type A score, based on items that show the highest correlations with the Rosenman Structured Interview (Rosenman et al., 1975).

Also, the study used a single scale extracted from the FPI-R, Freiburger Persönlichkeitsinventar (Fahrenberg, Hampel, & Selg, 2001). The FPI-R is a multi-phasic omnibus measure, containing 138 items in a yes/no response format, and has been widely used in health psychology or for the assessment of adult personality. The FPI-R LEB (Lebenszufriedenheit, life satisfaction) scale contains 12 items and has been validated in Romania as an excellent measure of general life satisfaction (Pitariu & Iliescu, 2007).

The two state-trait tests, namely the STAI-Y (State-Trait Anxiety Inventory, Spielberger, Gorsuch, & Lushene, 1970) and the STAXI-2 (State-Trait Anger Expression Inventory, Spielberger, 1988, 1996), are both standard measurement tools in clinical research. The STAI-Y has 40 items, grouped into two scales, State-Anxiety and Trait-Anxiety. The STAXI has 57 items, grouped into three scales and nine subscales, measuring specific facets of anger feeling, expression, and control.

As for behavioral indicators, the study is based on self-reports of behavior grouped into three categories: cooperative relationships, health and safety behaviors, and life satisfaction. The quality of relationships has been evaluated through four self-report measures: the frequency of interpersonal conflicts, the preference for teamwork, the preference for participative decision making, and the number of friends. Indicators of health and safety behaviors used, aside from the SWS total score (indicative of the Type A Behavior Pattern), are based on the following self-report measures: general health, frequency of medication intake, frequency of visits to doctor, frequency of counseling sessions, frequency of medical interventions, intensity of everyday strain/stress, number of accidents (car, work, everyday), frequency and intensity of somatic complaints. Indicators of life satisfaction used in this study were based on self-report of satisfaction with one's family situation, satisfaction with one's financial situation, satisfaction with interpersonal relationships, satisfaction with one's chosen profession and career, and satisfaction with one's current housing situation.

Results

The internal consistency of the five axiom dimensions measured by the SAS is acceptable, even though not high: 0.68 for Social Cynicism, 0.62 for Reward for Application, 0.73 for Religiosity, 0.58 for Fate Control, and 0.47 for Social Complexity. Thus, we may conclude that the five factors of the social axiom model are measured reliably, but that there is a possibility that the social complexity factor may not be very clear in Romania. Subsequent work with axioms in Romania has revealed a distinctive emic version of social complexity, called "interpersonal relations" (Guan, Bond, Dinca, & Iliescu, 2007).

It is obvious that some of the correlations discussed in the following are low and some results are weak, but even a Bonferroni correction will consider correlations above the $p < .0001$ level as significant. We will adopt in the following a conservative stance in our interpretation and will be focusing the discussion on correlations above the $p < .0001$ level, indicating the significance level only on those correlations where the level is lower.

Correlations of social axioms with personality indicators, as measured by the California Psychological Inventory, show an interesting but not unexpected pattern, as visualized in Table 1. Briefly put, we observe that indicators of social interaction, amicability, and social poise correlate positively with Reward for Application and

Table 1 Correlations of social axioms with personality traits

	CYN	RA	COM	FATE	REL
Dominance (0.77)	0.21**	0.32**	-0.02	0.03	-.15**
Capacity for status (0.62)	0.12*	0.34**	0.05	-0.06*	0.06*
Sociability (0.67)	-0.04	0.12*	0.03	0.07*	0.03
Social presence (.59)	-0.10*	0.10*	0.06*	0.03	-0.02
Self-acceptance (0.60)	0.09*	0.10*	0.09*	0.10*	0.15**
Independence (0.69)	0.13*	0.09*	0.00	-0.03	-0.10*
Empathy (0.61)	-0.09*	0.04	0.18**	0.10*	0.14**
Responsibility (0.65)	0.09*	0.19**	0.05	0.07*	0.07*
Social conformity (0.73)	-0.05	0.16**	0.06*	0.01	0.22**
Self-control (0.78)	-0.22**	0.03	0.07*	0.03	0.07*
Good impression (0.77)	0.07*	0.21**	0.17**	0.12*	0.07*
Communality (0.73)	-0.16**	-0.04	-0.04	0.04	0.15**
Well-being (75)	-0.14**	0.06*	0.05	-0.02	0.09*
Tolerance (0.65)	-0.30**	0.01	0.11*	0.08*	0.27**
Achievement via conformance (0.68)	-0.22**	0.29**	0.05	-0.10*	0.10*
Achievement via independence (0.70)	0.04	0.32**	0.13*	0.09*	-0.03
Intellectual efficiency/conceptual fluency (0.77)	0.08*	0.24**	0.21**	0.09*	-0.10*
Psychological mindedness/Insightfulness (0.60)	0.04	0.15**	0.14**	-0.04	0.04
Flexibility (0.73)	0.15**	0.09*	0.25**	-0.03	-0.13*
Femininity-masculinity/sensitivity (0.68)	-0.07*	-0.15**	0.05	0.09*	0.17**
Vector 1 (externalism-internalism) (0.77)	0.02	0.08*	-0.02	-0.04	0.00
Vector 2 (pro-against the norm) (0.72)	-0.02	0.11*	0.02	0.08*	0.17**
Vector 3 (self-actualization) (0.82)	-0.16**	0.08*	0.17**	0.02	0.13*
Managerial potential (0.79)	0.15**	0.29**	0.07*	-0.06*	0.05
Work orientation (0.67)	-0.13*	0.27**	0.03	-0.13*	0.16**
Creative temperament (0.74)	-0.04	0.07*	0.15**	0.04	-0.05
Leadership (0.77)	-0.10*	0.20**	0.03	0.03	0.02
Amicability (0.68)	-0.20**	0.03	0.08*	0.02	0.21**
Law enforcement orientation (0.57)	0.17**	0.09*	0.01	0.07*	-0.05
Tough-mindedness (0.75)	0.14**	0.06*	-0.10*	-0.03	-0.13*
Anxiety (0.51)	0.09*	0.01	0.07*	-0.09*	0.03
Hostility (0.68)	0.23**	0.00	-0.07*	-0.02	-0.14**

Note: Scale reliabilities are indicated in parentheses. * $p < .05$; ** $p < .0001$.

in part negatively with Social Cynicism. Indicators of value orientation correlate positively with Religiosity, and indicators of flexibility and innovation correlate positively with Social Complexity. Correlations shown by these four axioms are highly significant ($p < .0001$). Fate Control correlates only weakly with scales of the CPI, the largest correlation only significant at $p < .05$.

As shown in Table 2, the correlations between the five social axiom scales and different indicators related to health and safety also yield an interesting pattern.

Table 2 Correlations of social axioms with indicators of health and safety behaviors

	CYN	RA	COM	FATE	REL
Type A Behavior Pattern (TABP) (0.83)	0.09*	0.14**	0.06*	-0.03	-0.07*
General health	-0.19**	0.09*	0.12*	0.05	0.07*
Medication intake	0.03	0.05	0.05	0.10*	0.03
Visits to doctor	0.09*	0.09*	0.05	0.09*	0.09*
Counseling sessions	-0.01	0.04	0.01	0.02	0.07*
Medical interventions (hospital)	0.07*	-0.01	0.01	0.03	0.03
Everyday strain/stress	0.26**	0.23**	0.16**	-0.04	0.03
Number of accidents (car, work, everyday)	0.04	0.07*	0.02	0.09*	-0.05
Somatic complaints	0.03	-0.03	-0.10*	-0.02	0.09*

Note: Scale reliabilities are indicated in parentheses. * $p < .05$; ** $p < .0001$.

It is obvious that high scores on Reward for Application and Social Complexity, but especially Social Cynicism, are much more strongly correlated with indicators of high stress and bad health. People characterized by high scores on either Fate Control or Religiosity are less prone to experience strain or stress, to have high medication intake or to make frequent visits to doctors.

Social cynicism is strongly and positively related to the self-report of everyday strain or stress (0.26), and strongly and negatively related to one's self-report of general health (-0.19). These people also seem to be experiencing a higher level of everyday strain, or to be in the habit of complaining more often about stressful events. Objective evaluations of general health could not be obtained, and it is therefore probably safer to conclude that high scorers on Social Cynicism are much more prone to have a negative *perception* of their own health, rather than a generally lowered health.

Other axiom dimensions that are related to experiencing everyday stress include Reward for Application (0.23) and Social Complexity (0.16). Reward for Application also correlates significantly with the probability of being categorized as Type A (0.14, $p < .05$) and to develop the physical risk patterns associated with this category. This is consistent with the behavioral implications of a strong belief in the fact that one's own actions may change, improve, alter, develop, or generally control things.

Correlations between social axioms and indicators of life satisfaction have a high value for both the validation of the meaning proposed by Bond and Leung (2004) for their social axioms and for the interpretation of specific patterns of axiom scores. Rather large and significant correlations were expected between indicators of life satisfaction and Reward for Application, as well as somehow lower but still significant correlations with Fate Control, Religiosity, and Social Complexity. Social Cynicism should correlate highly and negatively with indicators of life satisfaction.

In summary, as shown in Table 3, from all the social axioms discussed, Religiosity seems to have the strongest relation to satisfying interpersonal relationships. Reward for Application has the most evident link to a high satisfaction with the financial situation, as well as with the chosen profession and current career. Fate

Table 3 Correlations of social axioms with indicators of life satisfaction

	CYN	RA	COM	FATE	REL
FPI-R LEB Scale (0.74)	-0.28**	0.25**	0.09*	0.11*	0.09*
Satisfaction with family situation	0.05	0.15**	0.17**	0.15**	0.14**
Satisfaction with financial situation	-0.13**	0.20**	0.05	0.11*	0.10*
Satisfaction with interpersonal relationships	-0.21**	0.12*	0.07*	0.14**	0.16**
Satisfaction with chosen profession/career	-0.10*	0.21**	0.10*	0.12*	0.11*
Satisfaction with actual housing situation	-0.14**	0.13*	0.01	0.14*	0.12*
Frequency of interpersonal conflicts	0.20**	0.12*	0.06*	0.03	-0.15**
Preference for teamwork	-0.06*	0.08*	0.05	-0.04	0.06*
Preference for participative decision making	-0.09*	0.10*	0.04	0.05	0.10*
Number of friends	-0.04	0.07*	0.08*	0.06*	0.10*

Note: Scale reliabilities are indicated in parentheses. * $p < .05$; ** $p < .0001$.

Control correlates most clearly with satisfaction regarding one's current housing situation and family situation. All these relationships reflect a general optimistic and positive tone of Social Complexity, Fate Control, Religiosity, and especially for Reward for Application, while Social Cynicism is associated with a general pessimistic and pervasive negativism.

The general pattern presented by the relationships between social axioms and self-report indicators of interpersonal cooperation and conflict shows a picture where interpersonal difficulties are associated with Social Cynicism, and interpersonal amicability, as expected, with Religiosity, with all the other axioms placed somewhere in between.

Social Cynicism has a moderate and positive correlation with self-report of frequent interpersonal conflicts (0.20). People having beliefs consonant with Social Cynicism seem thus to be less amiable and to foment more hostility with those around them (see also Lai, Bond, & Hui, 2007). Unlike them, individuals with beliefs high in Religiosity report a low frequency of interpersonal conflicts (-0.15). Also, correlations at the $p < .05$ level hint at the possibility that they have a higher number of friends than social cynics, and experience more positive, constructive, and cooperative relationships.

Table 4 reports correlations between social axioms and indicators of anger expression, as measured by the STAXI-2. At first glance, it seems apparent that axioms such as Social Complexity and Fate Control do not have specific patterns of anger expression, whereas Social Cynicism has a very specific pattern. Reward for Application and Religiosity are in the middle, between these two poles of the anger continuum.

Correlations of social axioms with trait indicators of anxiety, as measured by the STAI-Y, generally show higher anxiety for people adhering to axioms like Social Cynicism (0.12) and Social Complexity (0.10) and lower anxiety for those adhering to Fate Control (-0.13). It seems the typical believer in Fate Control takes matters more lightly compared to the typical social cynic.

An interesting pattern emerges also when the state and trait components of anxiety are compared. The state part of the questionnaire was administered with

Table 4 Correlations of social axioms with indicators of anger expression and anxiety

		CYN	RA	COM	FATE	REL
S-Ang	State Anger (0.88)	0.04	0.05	0.05	0.09*	0.04
S-Ang/F	Feeling Angry (0.91)	0.02	0.03	0.01	0.02	0.03
S-Ang/V	Feel Like Expressing Anger Verbally (0.90)	0.08*	0.03	0.02	0.05	0.06*
S-Ang/P	Feel Like Expressing Anger Physically (0.88)	0.01	0.09*	0.09*	0.03	0.02
T-Ang	Trait Anger (0.83)	0.13*	0.07*	0.00	-0.03	-0.02
T-Ang/T	Angry Temperament (0.85)	0.11*	0.08*	-0.04	-0.05	0.04
T-Ang/R	Angry Reaction (0.74)	0.17**	0.10*	0.02	0.01	-0.14**
AX-O	Anger Expression-Out (0.74)	0.22**	0.09*	0.00	-0.01	-0.07*
AX-I	Anger Expression-In (0.66)	0.07*	0.01	0.05	0.01	0.12*
AC-O	Anger Control-Out (0.84)	0.01	0.05	0.09*	0.05	0.10*
AC-I	Anger Control-In (0.81)	0.07*	0.01	0.06*	0.09*	0.02
AX Index	Anger Expression Index (0.79)	0.13*	0.05	0.02	0.03	0.03
S-Anx	State Anxiety (0.91)	-0.20**	0.16**	0.14**	0.01	-0.05
T-Anx	Trait Anxiety (0.92)	0.12*	0.03	0.10*	-0.13*	-0.02

Note: Scale reliabilities are indicated in parentheses. * $p < .05$; ** $p < .0001$.

instructions for the participants to think of “your most typical day,” based on the hypothesis that anxiety levels experienced for the most typical day should be more correlated with anxiety as a trait for those people who are able to predict their immediate future more accurately. Thus, when comparing correlations with State and Trait Anxiety, very large differences may be observed for Social Cynicism ($z = -8.109$, $p < .0001$): people scoring high on this axiom seem to have high Trait Anxiety, but nonetheless expect encounters in their immediate future to be lacking stress. Fate Control shows a consistent pattern in the opposite direction, showing no state anxiety and a very low tendency towards trait anxiety ($z = 3.53$, $p < .01$). Social Complexity, the other social axioms related to anxiety, does not show this pattern of difference ($z = -1.018$, $p > .05$).

Discussion

Social Cynicism Social cynics seem to be characterized by low self-control (-0.22), low tolerance (-0.30) and low amicability (-0.20). Independence in thought and deed is suggested by the strong positive correlation with dominance (0.21), by the negative correlation with communality (-0.16), typical for people who avoid conservatism and conventionality, by the negative correlation with achievement via conformance (-0.22), and the positive correlation with flexibility (0.15 , $p < .05$). The relative lack of interest for managing their social impression is suggested by the correlation with independence as well as the negative correlation with social presence (-0.10 , $p < .05$) and the very low correlation with the good

impression scale (0.07, $p < .05$), which, aside from its role as a fake good indicator, evaluates how people engage in impression management.

The social image of a typical social cynic is thus of a rather unsociable person, with undeveloped social skills, who does not strive to be liked by those around and does not care about the impression she or he leaves behind. He/she is not amiable (-0.20) with those around, but rather hostile (0.23). She or he has, however, strong opinions and does not hesitate in making her or his points known and putting forth his or her arguments. These behaviors are rather unaligned to social norms and mirror high flexibility in thought and deed and an inclination for the unusual, as well as a fundamental lack of tolerance for others and a preference for hostility, lack of self-control, and powerful law enforcement (0.17). Social cynicism is the only social axiom with a negative (and strong) correlation with the third vector scale (-0.16), which evaluates self-development and self-actualization, and is also indicative of the integration of one's positive potential and of emotional stability.

With regard to correlation with indicators of life satisfaction, social cynicism is especially linked to a negative perception of one's interpersonal relationships (-0.21), and to a lesser degree, to a negative self-evaluation of one's financial situation and housing situation. Also, social cynicism is highly correlated with low life satisfaction, as measured by the FPI-R LEB scale, which is a general indicator of life satisfaction, measuring feelings of satisfaction and contentment with life at a professional, family, financial, living, and status level, as well as of their results: self-acceptance, an optimistic vision on one's future, lack of brooding and ruminating, a tonic and energetic behavior, etc. In conclusion, we may say that people scoring high on social cynicism are often unsatisfied with their past and/or present, in one or more domains, like family life, professional life, interpersonal relationships, etc. They often brood and ruminate about what could have been different. They have a generally pessimistic and negativistic attitude, are self-defeating and unhappy, and could often be depressed.

As expected, social cynicism has the most toxic anger expression pattern of all social axioms considered. Correlations are high or medium-high, positive, and significant ($p < .0001$), especially with facets of anger expression like Angry Reaction (0.17) and Anger Expression-Out (0.22). Subsequently, the average social cynic could be described as being characterized by a low to medium level of inbred hostility and lack of trust towards others. This hostility surfaces in angry feelings, both as reaction to outward events and as an internal impulse lacking specific provocation. However, these angry feelings are most generally controlled, although there may be attempts of calming down or cooling off. Suppression and control, imperfect as they are, inhibit the physical expression of angry feelings for the social cynic, who is much more prone to express these feelings in a verbally abusive manner.

Reward for Application People scoring high on reward for application are usually sociable (0.14, $p < .05$), upward mobile (0.34), and assertive (0.32). Social indicators in the CPI all have positive and statistically significant correlations with this axiom. The CPI is based on a three-vector model, defining four lifestyles: Alpha, Beta, Gamma, and Delta. Of these, people scoring high on reward

for application are most consistent with the Alpha lifestyle; they are responsible (0.19), and oriented towards accepting social norms, rules, habits, and conventions (0.11 with the second vector scale, v_2). Although the latter correlation is low and only significant at $p < .05$, this conclusion is to some degree confirmed by other, stronger, relationships, showing that people scoring high on reward for application have many of the characteristics associated with the Alpha lifestyle, as described by Gough and Bradley (1996): They are hard-working, and may even be workaholics (0.27 with work orientation), have high management potential (0.29 with management potential) and well-developed people management skills (0.20 with leadership potential), and are upwardly mobile and motivated to gain higher social status (0.34 with capacity for status).

Characteristics exceeding the Alpha model are those suggested by the correlations with the CPI scales measuring preferences for intellectual functioning. Reward for application has high, significant, and positive correlations with both Achievement via Independence (0.32) and Achievement via Conformance (0.29), and tend to have good faith in their intellectual functioning (0.24).

The typical individual with beliefs close to reward for application is thus a hard-working person, motivated to achieve a higher social status, socially pleasant and adherent to social norms. He/she has invested in his/her social skills and gets along well with people, tends to be assertive and is basically a fighter for his/her ideas, goals, or beliefs. He/she is optimistic (very much opposed to the typical social cynic, who is pessimistic), and this optimism is pervasive in his/her psychological life. He/she has good faith in his/her skills, is outgoing, trusts his/her reasoning, and knows that he/she is able to cope with almost every situation he/she encounters. He/she places a high importance on how those around him/her perceive him/her, and practices active impression management as shown by the high correlation with Good impression (0.21). He/she has rather masculine values, as suggested by the negative correlation with the Sensitivity scale (-0.15 , $p < .05$), prefers to fight his way through life than to care, nurture, or tolerate faults he/she sees in others. He/she is not an intolerant person, but is rather neutral towards empathizing with understanding or nurturing others' feelings.

Reward for application has also strong and positive correlations with all indicators of life satisfaction. Thus, people having beliefs that strongly resemble the reward for application axiom are often satisfied with their life and with the road they see ahead of them. They are optimistic, most of the time content with their life partner, their family situation, their job, career, and chosen profession. They are open to the future and have a strong feeling of their own worth. This positive attitude generates emotional stability and psychological well-being. Behavioral and correlation analyses of the FPI-R LEB scale, reported by Fahrenberg et al. (2001) and Pitariu and Iliescu (2007), show that people scoring high usually also reflect a strong achievement motivation, are less excitable, less impulsive and more emotionally stable, and have a generally elevated behavioral tonus, as well as showing physical and emotional well-being.

Reward for application has positive correlations of medium strength ($p < .05$) with more indicators of anger expression, especially indicators of Trait Anger,

like Angry Temperament (0.08) and Angry Reaction (0.10), but also with Anger Expression-Out (0.09). This pattern suggests that people with beliefs consonant with Reward for application could be described as generally having a low to medium preference for experiencing anger.

Social Complexity Social complexity does not have as many significant correlations with the personality scales of the CPI as social cynicism or reward for application, but still the image resulting from these correlations is vivid. Social complexity seems to have three areas of convergence with the CPI, which could be described as a preference for the active management of their socially projected self, a preference for a nurturing, empathic, and soft-minded attitude and a preference for a flexible, fresh, open-minded, and creative outlook on life.

People scoring high on social complexity are usually empathic and seem to understand the social cues and the emotions of those around them (0.18 with empathy). They have a creative temperament (0.15, $p < .05$) and are flexible both in reasoning and in behavior (0.25). However, even though not exhibiting a socially scintillating self, the typical high scorer on social complexity is apprehensive regarding his/her social image and practices active impression management, as shown by the moderately high correlation with Good impression (0.17). Correlations of social axioms with the vector scales of the CPI picture high scorers on social complexity as among the most self-actualized individuals (17). They also have a very good impression about their conceptual fluency (0.21) and regard themselves as being efficient at an intellectual level. This is coupled with their high flexibility (0.25).

Fate Control Fate control has the weakest correlations with the personality scales of the CPI, among all the social axioms. The pattern emerging from the few and generally weak correlations (all of them only at the $p < .05$ level) is one of controlled and balanced individuals, with a preference for a socially unassertive, but warm and empathic stance. The most visible characteristics for scorers high on fate control include a negative work orientation (-0.13), active impression management (0.12), as well as self-acceptance (0.10) and empathy in their dealings with others (0.10). Fate control has, it seems, the palest correlations among all social axioms. Almost all correlational patterns between fate control and indicators of life satisfaction, health, anger expression and anxiety, are low or unconvincing.

Religiosity Correlations between the CPI scales and Religiosity are much stronger and mostly in the expected direction. Religiosity correlates either weakly or negatively with all indicators of social interaction, except self-acceptance (0.15, $p < .05$) and empathy (0.14, $p < .05$), thus reflecting for the typical religious person an image of a friendly, accepting, altruistic and amiable individual. This image is reinforced by the high correlation with amicability (0.21). Also, Religiosity has high and positive correlations with most normative scales of the CPI, especially with social conformity (0.22). This reflects an image of rather conservative and conventional individuals.

The typical individual high in religiosity is thus mannered, lacks hostility (-0.14) and generally lacks assertiveness (-0.15 with dominance). He/she tries to under-

stand those around him/her, is empathic, tolerant (0.27 with tolerance), and tender-minded (-0.13 with tough-mindedness, $p < .05$). He/she is also strongly oriented towards socially accepted norms, as shown by correlations with communality and social conformity, but also by correlations with the second vector scale (0.17), which describes him/her as norm-abiding and conventionally oriented. He/she has a healthy appetite for work (0.16 with work orientation). His/her values are much closer to a feminine nature, and he/she cherishes mutual help and understanding. He/she is, however, a person who actualizes his/her positive potential, as shown by the positive correlation with the third vector scale (0.13, $p < .05$), which measures self-actualization.

Concerning correlations with indicators of anger expression and control, the pattern typical for Religiosity is that of a controlled experience of anger. People higher in Religiosity have generally low scores for Angry Reaction, confirmed by a significant negative correlation between these two variables (-0.14). Angry Reaction is a facet of Trait Anger and measures “the frequency that angry feelings are experienced in situations that involve frustration and negative emotions,” (Spielberger, 1996, p. 2). Thus, the average individual adhering to Religiosity rarely experiences anger as a result of frustration. Also, typical for Religiosity is the medium-high but positive and significant correlation with Anger Expression-In and Anger Control-Out scales that measure “how often angry feelings are experienced but not expressed (suppressed)” and “how often a person controls the outward expression of angry feelings,” respectively (Spielberger, 1996, p. 2). Religious people seem thus to have a high tolerance for frustration and an effective pattern of dealing with their impulsivity and their urge to express anger physically or verbally. This control is usually done through a suppression of the outward expression of socially undesirable behaviors.

Conclusions

The first and foremost value of this study is its validation nature, documenting specific and highly expected patterns for social axioms on a national-wide, representative sample of Romanians. Our study is one of the first empirical studies of the relation between social axioms, personality, and behavior indicators. [This comprehensive analysis of the Romanian cultural group qualifies this study as an emic approach (Berry, 1969).] We must precise that we used in this study a pan cultural structure of axioms and the results are evidently influenced by that and we can't consider them absolutely emic.

Our findings allow us to describe the behavior patterns associated with social axioms. Persons with high social cynicism are characterized by a self-image which is disharmonic towards others. These persons also lack respect towards authority, are dissatisfied with life, a characteristic which, according to the CPI, would be indicative of a pathological evolution (for support see Chen, Wu, & Bond, 2007). Correlations obtained on the STAXI scales were significant, indicating the use of

anger and aggression to intimidate and influence others, and the predisposition to manifest anger, combined with aggressive, uncontrolled reactions (Spielberger, 1996). A reason for this image could be a main characteristic of the Romanian society, as Romania was in the first position on the dimension of societal cynicism, according to a study performed on 41 cultures (Bond et al., 2004). Finally, persons characterized by high social cynicism have high anxiety. Also, the analysis of self-reports of behavioral outcomes shows that social cynics have frequent interpersonal conflicts and precarious health. Of course, these findings only explain why Romanians might be higher on these outcomes than persons from other societies, but do not explain how a Romanian becomes high or low in social cynicism. Such a conclusion should call for developmental research of this normally distributed dimension of belief.

High scorers on "Reward for Application" believe that effort, knowledge, and careful planning of actions will lead to positive outcomes, and were associated with dominant behavior, self-contentedness, assertiveness, responsibility, orientation towards work, and need for social recognition. Anger in these persons is reactive, being associated with states of tension, surprise, and nervousness; they are not characterologically hostile, but might show aggressive reactions. These persons like to play an active part in decision making, have cooperative interpersonal relations, and frequently ask for counseling, as shown by self-reports. A reason for these high counseling requirements could be the overturning of values characteristic for the Romanian society after the 1990s, with its increased adaptation demands, high tension, and emotional strain. In conclusion, a strong belief in "Reward for Application" is associated with steady interpersonal relations, self-control, and a high counseling readiness, necessary for a lawful adaptation to a society with changing values.

Social complexity was associated, from a behavioral point of view, with the need for creating a good social impression, a positive self-image, but also with some reluctance to participate in decision-making processes. Subjective feelings of tension, disbelief, nervousness, and anxiety were transitional and well controlled. The analysis of self-reports indicated a lack of stress and a rather high satisfaction with family relations, the present career, and social relations. In conclusion, a strong belief in social complexity is associated with an orientation towards social relations, correlative with some states of anger, of medium intensity, which tend to be expressed, but are usually controlled in social relations. Social complexity was also associated with openness to change, creativity, flexibility, and independence in thought and action.

A strong belief in "Fate Control" involves a view of social events as influenced by fate and other nonpersonal forces. However, fate may be counteracted by means of various stratagems and "tricks." This belief correlates only weakly with personality scales of the CPI. High scorers are sociable persons, with a good self-image, empathic, tolerant and with a high need to be accepted by others. These persons are not very ambitious and do not follow efficient work practices. They tacitly refuse to comply with group norms. All these are coupled with the tendency to express anger physically, but this tendency is mostly controlled through repression. Anxiety, as a trait, is specific for this belief pattern. This contradictory picture is also confirmed by behavioral self-reports, some of which describe both frequent appointments with

doctors and frequent accidents, and at the same time a high satisfaction with one's own life circumstances. Therefore, fate control is mostly associated with anxiety, anger repression, resignation related to social norms, and rather feminine, nurturing, and warm tendencies.

The typical high scorer on "Religiosity" accepts the existence of spiritual factors influencing the human world. The major focus of religiosity, which is a belief in the social usefulness of religious institutions and practices, does not emerge directly from this study. Nevertheless, persons with a strong faith in this religious worldview are unique through their acceptance of norms imposed on them by society. Also, in opposition with social cynics, they are friendly, tolerant, and express no hostility towards others. They do not experience anxiety and they rarely experience feelings of anger. As a consequence, they are nonconflictual, enjoying smooth and cooperative group relationships. These persons are characterized by a high self-acceptance and a high capacity to understand others, coupled with a strong respect for social norms and a genuine disposition towards tolerance, as well as a certain tendency towards feminine, warm, and nurturing interpersonal style.

Axioms are concepts specifically related to cognitive functioning (Katz, 1960; Kruglansky, 1980) in a given cultural environment. The obtained results are thus typical and characteristic for the sample employed and reflect the recent history of Romanian society. These results have the advantage of integrating at least three variables, namely fundamental beliefs, historical structure, and prototypically for the Romanian community (Dinca, Iliescu, & Mihalcea, 2006), and are still strongly reflective of beliefs acquired during the communist period and to adaptive beliefs generated by the transition to a democratic culture.

Interesting continuations of this study would be in the area of comparative analyses of the correlations described here with behavioral patterns in other cultural areas of the globe. Also, an analysis on regional cultural zones could prove fruitful, considering the history of different cultural influences in Romania (Dinca, Iliescu, & Mihalcea, 2006).

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Exploring the Links between Social Axioms and the Epistemological Beliefs about Learning held by Filipino Students

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Abstract The study explores the possible relationships between social axioms and epistemological beliefs about learning. Two hypotheses are considered: (a) social axioms and epistemological beliefs show conceptual consistency and (b) social axioms and epistemological beliefs relate to each other in complementary and/or compensatory ways. Filipino university students were asked to complete locally validated versions of the Social Axioms Survey and the Schommer Epistemological Questionnaire. The responses were analyzed using canonical correlation procedures that revealed several significant correlations among canonical roots. The results of the study did not show consistency or convergence in the concepts and themes of the two sets of beliefs. Instead, there may be various forms of complementary and/or compensatory relationships among the specific types of beliefs depending on the societal environment facing the learner. Such complementary and compensatory relationships might indicate some attempt on the part of students to mesh their cognitive appraisals and beliefs about their learning experiences with the larger social environment within which these learning processes take place. The results of the study raise important questions regarding how various beliefs held by individuals may relate to each other as they are contextualized in particular domains in a person's life.

In recent years, researchers have explored how different social axioms are related to various social psychological variables (e.g., Bond, Leung, Au, Tong, & Chemonges-Neilson, 2004a; Kurman & Ronen-Eilon, 2004; Safdar, Lewis, & Daneshpour, 2006) and personality variables (e.g., Chen, Bond, & Cheung, 2006; Chen, Cheung, Bond, & Leung, 2006; Chen, Fok, Bond, & Matsumoto, 2006;

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Singelis, Hubbard, & Her, 2003). Such studies have demonstrated the usefulness of social axioms as an explanatory construct that accounts not only for cross-cultural differences in psychological phenomena, but also for within-culture variations related to a variety of psychological constructs.

There have not been many attempts to investigate how social axioms may be related to psychological variables in the domains of learning and education. Bernardo (2004) explored correlations among the five dimensions of social axioms and Filipino university students' achievement goal orientations and learning strategies. He found that reward for application and social complexity were positively related to mastery goals (or the focus on learning for its intrinsic value and for the purpose of improving one's competence in a domain, Ames, 1992). It seems that mastery goals are likely to be adopted when the student believes that with effort, one can adjust and succeed in a complicated social environment. On the other hand, social cynicism, fate control, and religiosity were positively associated with performance goals (or the focus on social comparison, competition, and on self-worth as indicated by being recognized as performing better than others, Ames, 1992) and work avoidance (or the motivation to do schoolwork with minimal effort, Archer, 1994).

Interestingly, performance goals and work avoidance have been associated with numerous negative, learning-related variables, such as maladaptive attributions for failure (Dweck & Leggett, 1988), less time spent and less persistence on tasks (Ames, 1992), less cognitive engagement, and more use of surface-processing strategies (Pintrich, Smith, Garcia, & McKeachie, 1993), and lower overall achievement (Ames, 1992). Thus, it seems that these goals are likely to be adopted when the student holds beliefs that express low perceived self-instrumentality and agency (i.e., social cynicism, and fate control) and beliefs about the positive influence of spiritual forces on social outcomes. Bernardo (2004) also explored how social axioms may be related to the different types and levels of learning strategies adopted by students. However, there was no clear interpretable pattern of relationships revealed by the correlations.

The present study is another step towards exploring how social beliefs may relate to psychological processes and constructs in the educational domain. In particular, it explores the possible relationships among the different dimensions of social axioms and the epistemological beliefs about learning held by Filipino university students.

Epistemological Beliefs About Learning

Epistemological beliefs are defined as conceptions "about the nature of knowledge and the nature or process of knowing" (Hofer & Pintrich, 1997, p. 117). As it has been defined in the research literature, epistemological beliefs also include attitudes and norms, and as such are not the same as social axioms which embody "pure" beliefs (cf., Leung et al. , 2002). The more mature epistemological beliefs (i.e., that knowledge is complex, that learning is influenced by one's effort and strategies

and not by ability, etc.) have been shown to be associated with various higher-order thinking and learning processes and strategies, such as argumentative reasoning (Kuhn, 1991), critical thinking (King & Kitchener, 1994), choice and use of learning strategies (Kardash & Howell, 2000; Schommer, Crouse, & Rhodes, 1992), need for cognition and interpretation of evidence (Kardash & Scholes, 1996). These mature epistemological beliefs are also related to more positive learning motivations, such as the mastery achievement goal orientation (Braten & Stromso, 2004). As a consequence of the combination of these higher-order learning strategies and positive learning motivations, mature epistemological beliefs are also associated with better learning outcomes, including deeper comprehension during reading (Kardash & Scholes, 1996; Schommer, 1990), conceptual change learning (Qian & Alvermann, 1995), and better general academic performance (Schommer, 1993).

Research has shown that epistemological beliefs generally change as a person grows older and becomes more educated (Bendixen, Schraw, & Dunkle, 1998; Schommer, 1998). However, it is not clear whether education brings about changes in epistemological beliefs or merely covaries with them. Nevertheless, many scholars have proposed classroom-related interventions to promote epistemic development among students (e.g., Baxter-Magolda, 1992, 1999; Conley, Pintrich, Vekiri, & Harrison, 2004; Kardash & Scholes, 1996; King & Kitchener, 2002). None of these interventions has actually linked change in epistemological beliefs to variables beyond the range of teaching, learning, and knowledge-related outcomes. There has been no documented link between social-psychological variables and epistemological beliefs.

There have been studies that looked at possible cultural influences on epistemological beliefs of students. These studies looked into epistemological beliefs in different cultures, and, collectively, they indicate that the dimensions of epistemological beliefs might vary across cultures. Different dimensions of epistemological beliefs have been found in studies involving Hong Kong Chinese students (Chan & Elliot, 2000, 2002, 2004), Dutch-speaking students in Belgium and the Netherlands (Clarebout, Elen, Luyten, & Bamps, 2001), Norwegian students (Braten & Stromso, 2005), and American students (Schommer, 1993).

A study on the epistemological beliefs of Filipino students (Bernardo, 2008) identified two related dimensions of epistemological beliefs that both refer to beliefs about the nature of the learning process. The first dimension, "simple learning," refers to the belief that learning is a bare, elementary, and uncomplicated process. The opposite of this belief assumes that learning is a complex process that can be critiqued, further improved, and elaborated. The second dimension, "structured learning," refers to the belief about the importance of organization, precision, and certainty in the learning processes. The opposite of this belief assumes that learning is a loose, inexact, and even ambiguous process.

In the cultural studies on epistemological beliefs, cultural differences on the different dimensions have been attributed to differences in the educational system. However, Chan and Elliot (2002) proposed that cultural differences may be due to differences in related values (e.g., value attached to expert and authoritative knowledge, and value attached to either effort or ability in learning). Youn, Yang, and Choi

(2001) also proposed that differences in epistemological beliefs may be related to differences associated with interdependent vs. independent self-construals.

The Present Study

The present study is an attempt to explore the possible relationships between social axioms and epistemological beliefs. Two tentative hypotheses are considered as regards the relationship between these constructs: first, it is possible that social axioms and epistemological beliefs will show conceptual consistency; second, it is possible that social axioms and epistemological beliefs will relate to each other in complementary and/or compensatory ways.

Before we consider the two hypotheses further, let us define the dimensions of social axioms and epistemological beliefs investigated in the present study. For social axioms, the five social axioms as defined by Bond et al. (2004a, p. 2) are used: (a) “social cynicism represents a negative assessment of human nature and social events,” (b) “reward for application refers to the position that the investment of human resources will lead to positive outcomes,” (c) “social complexity refers to the view that there are multiple solutions to social issues, and that the outcome of events is uncertain,” (d) “fate control refers to the general belief that social events are influenced by impersonal, external forces” and that it is possible to alter these forces, and (e) religiosity “refers to the view that spiritual forces influence the human world and that religious institutions exert a positive effect on social outcomes.” For the epistemological beliefs, two dimensions derived from (Bernardo, 2008) were studied: (a) complexity of learning—or the belief that the process of learning is either simple or complex and (b) structure of learning—or the belief that the learning process should be either loose and flexible or precise and structured.

For the first hypothesis, it is possible that the dimensions of social axioms would relate to the dimensions of epistemological beliefs that represent similar conceptual themes or qualities. Thus, the epistemological belief associated with the complexity of the learning process might be related to the social belief associated with the complexity of social phenomenon. Likewise, the epistemological belief related to the structure of the learning process might be negatively associated with the social beliefs that indicate looseness, ambiguity, and flexibility, such as fate control, social complexity, and maybe even religiosity. For the second hypothesis, it is possible that the epistemological beliefs held by students represent an attempt to respond to perceptions regarding the external social environment. That is, a students’ belief about learning may be an attempt to compensate for perceived problematic features of the social environment, to balance or complement the challenging aspects of social phenomena, to better adapt and perform within that environment. For example, the belief that learning should be precise and structured might be a way of adaptively responding to the perception of society as being complex (social complexity) and/or uncontrollable (fate control).

There may be different forms of conceptual overlap and of complementary–compensatory relationships between the two sets of variables. In the present study, the canonical correlation procedure is used to explore what types of relationships may exist in the data.

Method

Participants and Procedure

The participants were 399 university students (276 of whom were female) from three universities in three different regions of the Philippines. Their average age was 20.34 years and the participants came from different socio-economic sectors of the country. The participants were asked to complete the research questionnaire as part of a class requirement, and they completed the questionnaires during a class session.

Instruments

Social Axioms Survey An abridged version of the original English version of the Social Axioms Survey developed by Leung et al. (2002) was used in the study. The abridged English version had been validated with Filipino participants (Bernardo, Posecion, Reganit, & Rodriguez-Rivera, 2005), and included only 37 items (see Table 1). The factor structure of this abridged version was investigated in the

Table 1 Descriptive statistics for the various scales ($N = 399$)

Scale	No. of items	M	SD	Cronbach α	Intercorrelations						
					1	2	3	4	5	6	
Social Axioms											
1. Social Cynicism	10	2.84	0.61	0.72	1.00						
2. Fate Control	8	3.14	0.59	0.60	0.45**	1.00					
3. Social Complexity	6	3.94	0.55	0.67	-0.10*	0.14**	1.00				
4. Religiosity	4	3.84	0.74	0.73	0.10*	0.34**	0.36**	1.00			
5. Reward for Application	9	3.92	0.54	0.73	-0.13*	0.13**	0.70**	0.32**	1.00		
Epistemological Beliefs											
6. Complex Learning	10	1.95	0.51	0.72	0.18**	-0.01	-0.056**	-0.28**	0.54**	1.00	
7. Structured Learning	7	3.91	0.54	0.64	-0.00	0.15**	0.52**	0.33**	48**	-0.60**	1.00

* $p < .05$, ** $p < .01$.

present study using confirmatory factor analysis. Several indexes of fit were used to evaluate the model and the results were mixed. Two indexes did not meet the criteria: GFI = 0.86 and CFI = 0.79, but the other indexes indicated that the five-factor model was acceptable: $\chi^2/df = 1.92$ and RMSEA = 0.05. There is enough indication that the five-factor model is evident in the data. The basic statistics for the five dimensions of social axioms are shown in Table 1.

Schommer Epistemological Questionnaire The English version of the Schommer Epistemological Questionnaire (Schommer, 1998) that has been validated with Filipino participants (Bernardo, 2008) was used in the study. The scale had two subscales, which were labeled “the complexity of learning” and “structure of learning” scales in the present study (note that the scales were labeled “simple learning” and “structured learning” in the original paper). The two-factor model of the questionnaire was also investigated using CFA. The results of the CFA indicated an acceptable fit with the two-factor model: GFI = 0.94, CFI = 0.91, $\chi^2/df = 1.75$, and RMSEA = 0.04. The basic features and statistics of the two scales are described in Table 1.

As noted in the introduction, the epistemological beliefs are not pure beliefs, and include statements of prescriptive norms and attitudes, and this is evident in the contents of the two subscales. The subscales comprised of statements to which the participants had to indicate whether they agreed or disagreed using a 5-point Likert scale (1 = strongly disagree and 5 = strongly agree). For the complexity of learning scale, a higher score expressed the notion that learning was a complex process, whereas a lower score expressed the notion that learning was a simple process. A sample negative item was, “If a person can’t understand something within a short amount of time, he/she should keep on trying.” For the structure of learning scale, a higher score reflected the belief that the learning process should be precise and structured, whereas a lower score reflected the belief that learning should be a loose and flexible process. A sample item in this scale was, “I really appreciate instructors who organize their lectures meticulously and then stick to their plan.”

Results

The descriptive statistics are shown in Table 1. The multiple correlations indicate somewhat different patterns of correlation of the two dimensions of epistemological beliefs with the five social axioms. To further explore these correlations, the scores were analyzed using canonical correlation. Because the epistemological beliefs had only two variables, only two canonical roots were computed. The relationship between the first pair of canonical variates was significant, Wilk’s $\Lambda = 0.55$, $\chi^2(10) = 237.23$, $p < .0001$, $R_c = 0.65$, accounting for 42% of the overlapping variance. The relationship between the second pair of canonical variates was also significant, Wilk’s $\Lambda = 0.95$, $\chi^2(4) = 19.65$, $p < .001$, $R_c = 0.22$, accounting for a much smaller portion of 4.9% of the overlapping variance. These results are described in detail below.

First Canonical Root The first variate had high positive loadings on social complexity (0.92) and reward for application (0.88) and a moderately high loading on religiosity (0.51). Social cynicism (-0.20) and fate control (0.11) did not load significantly on this variate. The variate can be interpreted as representing a factor related to the belief that there are still positive consequences to the investment of human resources even if the social environment is rather uncertain and multiple solutions may be required to address problems in the social domain. As such, this variate is labeled “reward for application amidst complexity.”

The second variate in the first canonical root was comprised of a high negative loading on complexity of learning (-0.94) and a high positive loading on structure of learning (0.84). The highly contrasting loadings suggest a single bipolar factor that seems to correspond to what Schommer (1990, 1993) refers to as simple learning. On one end of the continuum is the belief that the learning process is a bare, quick, and uncomplicated process that is best approached in a precise and organized way. On the other end of this continuum is the belief that learning is an elaborate, deliberate, and gradual process that is best approached by being flexible and adaptable. Because of the valence of the loadings, this variate was labeled “simple structured learning,” where higher values on the variate represent adherence to the belief that learning is a simple process that must be approached using a specified structure.

The canonical correlation of this first pair of canonical roots indicates a positive relationship between the variate of reward for application amidst complexity and simple structured learning, with this relationship accounting for a sizable proportion of the overlapping variance (42%). The significant canonical coefficients for the social axioms were: 0.55 for social complexity, 0.43 for reward for application, and 0.20 for religiosity. The canonical coefficients for social cynicism and fate control were not significant (-0.09 and -0.05, respectively). For epistemological beliefs the significant canonical coefficients were 0.84 for structured learning and -0.94 for complex learning. These results indicate that those who believe that investment of personal resources has positive outcomes in an uncertain social environment are likely to believe that learning is an uncomplicated process that should be engaged in an organized and precise manner.

Second Canonical Root The second canonical root actually accounts for a rather small proportion of the overlapping variance, but was still statistically significant. Thus, we explored what this canonical correlation might reveal. The first variate shows high negative loadings on social cynicism (-0.87) and fate control (-0.77) and a moderate negative loading on religiosity (-0.42). Neither social complexity (-0.10) nor reward for application (0.06) loaded significantly on this variate. The variate can be labeled as “positive outlook and control of social events,” as it seems to reflect disagreement with beliefs that express a negative perception of people and social institutions and the importance of unknown forces in determining social events. The second variate shows moderately low negative loadings on both complex learning (-0.35) and structured learning (-0.54). This variate can be labeled “simple unstructured learning,” as the belief seems to express an opposition to the

beliefs that learning is a complex process or that learning should be a precise and structured process. The unstructured aspect of learning may be related to beliefs related to the adaptability, flexibility, and even unpredictability of learning.

The second canonical correlation indicates a positive relationship of the belief in a positive outlook and control of social events with the belief that learning is a simple and unstructured process. The significant canonical correlations for social axioms were: -0.66 for social cynicism, -0.39 for fate control, and -0.23 for religiosity. The coefficients for social complexity (-0.18) and reward for application (0.22) were not significant. The canonical coefficients for epistemological beliefs were -0.54 for structured learning and -0.35 for complex learning. Thus, those who endorse social cynicism, fate control, and religiosity are more likely to believe that learning is simple and involves an unstructured process.

Discussion

The exploratory analysis using canonical correlations revealed at least two possible relationships between dimensions of the social axioms and dimensions of the epistemological beliefs of Filipino students. We discuss what these two canonical correlations may indicate in the following sections.

For the first canonical root, the results indicate that those who believe that investment of personal resources has positive outcomes in an uncertain social environment are likely to believe that learning is an uncomplicated process that should be undertaken in an organized and precise manner. The relationship between these two canonical roots seems to embody a contradictory set of beliefs relating to complexity: that society is complex, but that learning is not. Or, conversely, those who believe that society is simple are also likely to believe that learning is complex. This type of association is actually supported by the significant negative correlation between the two variables as shown in Table 1. But, the canonical correlation is not simply about the relationship between these two beliefs relating to complexity; instead it is between two higher level factors as described by the variates. Still, apparently contradicting beliefs related to uncertainty underlie the two variates.

A more careful analysis of the relationship between the variates reveals a possible complementary or compensatory relationship between the social axioms and epistemological beliefs. The belief that learning is simple and structured can be viewed as an adaptive belief that makes the belief in reward for application more viable within an uncertain and ambiguous social environment. Indeed, one might think that one would find it difficult to believe in reward for application while also believing that outcomes in the social environment are highly uncertain. Believing that learning is a simple and structured process could provide a social-cognitive means for affording and/or enabling the belief in reward for application amidst complexity. The belief that learning is simple and structured may provide a person with some degree of control or agency over the uncertainty within the social environment. In other words, the belief in simple structured learning may help one

to believe that some aspects of the social environment are more manageable or controllable, thus affording the belief in reward for application.

Some seemingly contradictory beliefs are once again apparent in the second canonical correlation. In the second canonical root, there was a positive relationship of the belief in a positive outlook and control of social events with the belief that learning is a simple and unstructured process. One could question how it is possible to hold similarly positive beliefs regarding the two factors of epistemologically beliefs. How could two beliefs that are actually negatively correlated (see Table 1) comprise a single variate? As with the first canonical root, the second canonical correlation can be interpreted as showing some complementary or compensatory relationships among these beliefs. The concomitant beliefs that learning is both simple and unstructured may be afforded by the positive beliefs regarding the benign nature and controllability of social events. Even if learning is complex and unpredictable, the more general belief in the benign nature and controllability of social events can help sustain the belief that learning is nevertheless a simple process. That is, the positive outlook on the social world lends a more favorable interpretation of the perceived reality that learning is complex and unpredictable, thus making learning more manageable.

Another way of interpreting the relationship in a compensatory way would be by saying that the belief about the benign nature and controllability of social events affords the belief that learning is adaptable instead of being fixed, even if learning is supposed to be a simple and straightforward process. That is, strategy constraints implied in the belief of simple learning can be overcome by the belief that social phenomena (perhaps including learning) are nevertheless controllable, thus making the learning process more flexible and adaptable (instead of being structured).

These interpretations of the patterns of relationships observed in the two canonical roots are obviously speculative, given the exploratory nature of the analysis. But, the interpretation can be verified in studies that directly test the interpretation. Regarding the interpretation of the first canonical root, for example, future studies may evaluate models that assume that simple structured learning beliefs mediate the relationship between the two social axioms of social complexity and reward for application. Or, qualitative data can be obtained to inquire into people's implicit premises related to their beliefs about simple structured learning and reward for application amidst complexity.

There are other noteworthy aspects of the results of the exploratory analysis. For one, we note common qualities of the two dimensions of social axioms that seem to be associated with Filipino students' beliefs about learning: (a) reward for investment of personal resource or effort amidst an ambiguous social environment and (b) positive outlooks and controllability of social events. These two dimensions of social beliefs seem to have a benign or optimistic quality to them (see Bond et al., 2004, on environmental maleficence). The first canonical root suggests a belief that effort will pay off even if the environment is unpredictable, whereas the second canonical root suggests a belief that the environment is positive and controllable. These two "optimistic" canonical roots both related to dimensions of epistemological beliefs that involve beliefs related to the simplicity of the learning

process (note the negative loadings and coefficients on simple learning in both canonical roots).

The exploratory approach of the study should signal some caution in drawing conclusions about the links between dimensions of social and epistemological beliefs. Future studies should explore the reliability of the canonical variates and also how these variates may relate to other psychological variables in the education domain, such as students' motivation in learning, strategies for learning, and achievement levels. Studies may also look into how dimensions of social axioms and epistemological beliefs relate to teachers' beliefs about teaching and knowledge, and also their teaching approaches and practices.

At these early stages of research looking into the correlates and possible consequences of social axioms with other psychological variables in the educational domain, what is needed is a theory that provides some guides as to how to study these relationships. The results of the study suggest that the relationships among social beliefs and epistemological beliefs may not show consistency or convergence in the concepts and themes of the two sets of beliefs. Instead, the results suggest there may be various forms of complementary and/or compensatory relationships among the specific types of beliefs depending on the societal environment facing the learner. Such complementary and compensatory relationships might indicate some attempt on the part of students to mesh their cognitive appraisals and beliefs about their learning experiences with the larger social environment within which these learning processes take place.

Several interesting questions could be raised regarding the last point. Could these compensatory processes be assessed in other domains of a person's life? Would there be similar compensatory processes related to beliefs in one's family life, interpersonal relationships, work and organizational processes? Do these compensatory and complementary processes indicate better levels of adjustment or adaptation to the social environment? Would better adapted persons show greater complementarity of beliefs, and less well adapted person less complementarity of beliefs? For example, would better adjusted students show greater complementarity of beliefs? And would less successful students show less complementarity? These and other questions that relate to how different categories of beliefs relate to each other in specific life domains might be important to pursue if we wish to better understand how beliefs function within a learning context.

But, the different types of relationships between epistemological beliefs and social axioms might actually be due to the ambiguity of epistemological beliefs as a psychological construct. As noted earlier, epistemological beliefs have been operationally defined in the literature as referring to a variety of cognitions, including pure beliefs, normative prescriptions, and attitudes. Thus, the varied relationships between epistemological beliefs and social axioms revealed in the present study might be reflecting different layers of relationships between the pure beliefs expressed in the social axioms and the various norms, attitudes, and other cognitions expressed in the epistemological beliefs. Perhaps there is a need to untangle these varied types or components of cognitions about learning, and to study how

each component relates to different social axioms. Research in this direction will provide us with a more precise understanding of how social axioms relate to epistemological beliefs about learning.

These concerns about the precise nature of epistemological beliefs notwithstanding, the results of the study indicate the need to contextualize the relationship between epistemological beliefs and learning outcomes within students' beliefs about the social realities they must contend with. These exploratory findings suggest that specific types of beliefs about learning may be associated with particular beliefs about social phenomena. Most learning experiences occur in social contexts (e.g., the classroom, the community, the national school system) and the relationship between beliefs about learning and about social phenomena may be reciprocal. Students' specific learning experiences with other students, their teachers, among others, may shape their beliefs about social processes, as their experiences in nonlearning situations may also shape their beliefs about the processes involved in learning. Thus, epistemological beliefs would need to be construed in social–functional terms, as Leung and Bond (2004) have done with social axioms.

For educators and education researchers, the social functionality of epistemological beliefs may be of interest, especially because epistemological beliefs have been shown to be associated with learning strategies, motivations, and outcomes. Perhaps there is a need to consider how different learners appraise the larger social environment, as their beliefs about learning, and consequently the learning strategies and motivation they adopt, and the outcomes they achieve, may be influenced by these social beliefs. Thus, it may not be sufficient to characterize students' particular learning strategies and motivations as either effective or maladaptive. Instead, education researchers might need to understand how students' construals of their social environments bring about either effective or maladaptive beliefs about learning, and consequently determine whether the students will adopt either beneficial or detrimental approaches to learning. Perhaps, future research would show that successful learners not only hold mature epistemological beliefs about learning, but that they also maintain a particular set of beliefs about the social environment that afford such epistemological beliefs.

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An Examination of Proactive Coping and Social Beliefs among Christians and Muslims

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Abstract In the present chapter, relations between religious affiliation, social beliefs, and proactive coping were examined. It was anticipated that members of different religions would have different social beliefs and would differ on Proactive Coping strategies. It was also predicted that social beliefs, specifically Reward for Application and Social Complexity, would mediate the relation between Religion and Proactive Coping. One hundred and eighty individuals who identified themselves as practising Muslims or Christians, living in three countries (Canada, the United States, and the United Kingdom), participated in the study. The results indicated differences between the religious groups in their endorsement of social axioms, with Muslims scoring higher on the subscales Social Cynicism, Fate Control, and Religiosity. No difference between the two religious groups on Proactive Coping was found. Findings are interpreted in the light of socio-political circumstances as well as religious belief and practice. Limitations and possibilities for further work are discussed.

A number of studies have shown that religion and well-being are related and that a focus on coping in the context of religion adds to our understanding of people's attempts to maintain their well-being in the face of adversity (Beit-Hallahmi & Argyle, 1997; Graham, Furr, Flowers, & Burke, 2001; Kennedy, Davis, & Taylor, 1998). However, both religion and coping are complex constructs, and the subtle relationship between them is further complicated by the diversity of values and beliefs across (and within) different religious faiths. Most of the research to date has considered coping with samples from one religion, usually Christian (e.g., Pargament, Ensing, Falgout, Olsen, Reilly, Van Haitsma, & Warren, 1990;

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Pargament, Ishler, Dubow, Stanik, Rouiller, Crowe, Cullman, Albert, & Royster, 1994; Pargament, Kennell, Hathaway, Grevengeod, Newman, & Jones, 1988; Pargament, Tarakeshwar, Ellison, & Wulff, 2001), sometimes Jewish (e.g., Zeidner & Hammer, 1992), and sometimes Muslim (e.g., Ai, Peterson, & Huang, 2003; Ai, Tice, Huang, & Ishisaka, 2005).

There are, however, few studies comparing coping across faiths and relating coping styles to patterns of belief. The present paper represents an attempt to initiate this research as a step towards a better understanding of the “interplay of religion and culture” (Tarakeshwar, Stanton, & Pargament, 2003, p. 377), and of the relationship between the beliefs of different religious traditions and the coping styles of their adherents. Such an understanding has clinical as well as theoretical significance in healthcare systems with increasingly diverse clientele (Lewis, Gold, & Thorpe, in press; Peacock & Wilson, 2004).

Coping

Put simply, coping is “the effort to manage psychological stress” (Lazarus, 1999, p. 111). This is an abbreviation of Lazarus and Folkman’s (1984) formal definition of coping as “[c]onstantly changing cognitive and behavioral efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person” (p. 141). It is not a static resilience, then, but a dynamic process, potentially subject to influence by many variables. Some authors focus on specific aspects of coping; Pargament (1997), for example, defines it as “a search for significance in times of stress” (p. 90).

A broad distinction between two general types of coping is widely endorsed (e.g., Carver, Scheier, & Weintraub, 1989; Lazarus, 1999): problem-focused (active), aimed at problem solving, and emotion-focused (passive), aimed at controlling or reducing emotional distress. Although most types of stressors elicit a combination of both types of coping, problem-focused coping is conventionally regarded as more adaptive in circumstances when the individual has the ability to do something constructive to deal with the stressor. Emotion-focused coping, often found to be a less adaptive strategy, is sometimes more appropriate when the situation is beyond the control of the individual (Folkman & Lazarus, 1980; Lazarus, 1999).

These types of coping can be described as reactive in that they are responses to stressful events that have already occurred, with the aim of compensating for loss or harm in the past (Greenglass, 2002). Recent attention has focused on future-oriented proactive coping, to which the passive counterpart is avoidance (Greenglass, 2002). Proactive coping refers to how one faces life, rather than how one reacts to it. It consists of efforts to build up general resources that buffer the person against future vicissitudes, enable challenges to be met, and promote personal growth. An important feature of this anticipatory proactive coping is that it often utilises social support as a practical, informational, and emotional resource (Greenglass, Schwarzer, & Taubert, 1999).

Religion

There are two common approaches to a definition of religion. One relies on the premise that religion consists essentially of belief in God(s) or spirit(s) (e.g., Beit-Hallahmi & Argyle, 1997; Tylor, 1870). The second relies on Durkheim's (1976) dichotomy between the sacred ("that is to say, things set apart and forbidden" p. 47) and the profane. Pargament (1997), for example, defines religion as, "a search for significance in ways related to the sacred" (p. 32), a definition which also echoes Geertz (1973, see below) in its emphasis on the provision of meaning.

Neither of these approaches is definitive: Durkheim's distinction is not always supported by the data, in other words, the distinction between sacred and profane is not applicable to all religions (e.g., the practices of the Azande and the Nuer, Evans-Pritchard, 1937, 1965; and of the LoDagaa, Goody, 1961); neither do all systems of thought referred to as religions necessarily include deities or spirits (e.g., systems based on impersonal forces, such as *mana* in Melanesia and *wakan* in Dakota; Goody, 1961, and Buddhism, at least in what has been referred to as the "great tradition"; Obeyesekere, 1963, and the more recent "Protestant Buddhism"; Gombrich & Obeyesekere, 1988; Morris, 1987; Southwold, 1978). However, both these approaches to the problem of defining religion provide good rules of thumb and, in practice, there is substantial overlap between them. There is, of course, also a social and institutional aspect to religion; Durkheim (1976) emphasised its function to "unite one single moral community" (p. 47).

A different approach was taken by Geertz (1973) who defined religion as a system of knowledge concerned with giving meaning to experience: "a system of symbols which acts to establish powerful, pervasive, and long-lasting moods and motivations in men [*sic*] by formulating conceptions of a general order of existence and clothing these conceptions with ... an aura of factuality" (p. 90). This last approach to a definition of religion seems preferable to the (nondefinitive) Tylolean or Durkheimian positions. It also makes clear that a religion is a cultural phenomenon (i.e., a system of shared meanings, Rohner, 1984), and when considering culture, sampling by religion is a viable alternative to the more common strategy of sampling by nation state, a method which might be described more accurately as cross-national than as cross-cultural (Georgas, Van de Vijver, & Berry, 2004).

In support of this position, Taylor (2003) has suggested that endorsement of values associated with Hofstede's (2001) research correlates with religion, for example, Muslim countries score relatively high on Uncertainty Avoidance and Power Distance (Taylor, 2003). Similarly, Inglehart and Baker (2000) argue that a "history of Protestant or Orthodox or Islamic or Confucian traditions gives rise to cultural zones with distinctive value systems" (p. 49). Other authors (e.g., Tarakeshwar et al., 2003) have argued that cross-cultural research should give greater emphasis to religion than has been the case to date (for a recent example of cross-cultural work that does include religion, see Georgas et al., 2004).

Religion and Coping

Pargament (1997) connects religion and coping by definition (see the overlapping definitions above) and a growing body of relevant data connects them empirically (Koenig, George, & Siegler, 1988; McRae, 1984; Pargament, 1997; Pargament et al., 1988; Pargament et al., 1994). For example, it has been found that spirituality involving religious beliefs is associated with greater spiritual health and a greater awareness of resources for preventing strain (Graham et al., 2001). Ai et al. (2003) found that “positive” forms of prayer (for example, seeking God’s love and care, as opposed to, for example, feeling abandoned by God; Pargament, Smith, Koenig, & Perez, 1998) were associated with optimism amongst a sample of Kosovar and Bosnian Muslim refugees in the USA.

However, the extent to which religion is associated with active coping strategies is moot: the empirical data to date are mixed. The association of religion with passive coping (McRae, 1984) stems from the Freudian notion of religion as a defence mechanism (Spiro, 1965), but there is increasing evidence that this view is limited. Although some authors have linked religion with passive approaches (Dunkel-Schetter, Feinstein, Taylor, & Falke, 1992), some have linked it with an active coping style (Carver et al., 1989; Zeidner & Hammer, 1992) and others with both (Keefe et al., 1987). Pargament and Park (1995) review the data and suggest that there is strong evidence that religion provides ways of reinterpreting or reevaluating the meaning of a situation, which might constitute either an emotion-focused or a problem-focused strategy.

Pargament et al.’s (1988) own findings on forms of coping that are specifically religious also suggest that religious coping is not necessarily passive. When people turn to religion in the face of problems (stressors), this is not always “neurotic religion” (Pargament et al., 1988, p. 93), a dysfunctional relinquishing of control, as has traditionally been portrayed in much of the mainstream psychological literature (e.g., Allport, 1950; Ellis, 1960; Freud, 1927).

Pargament and Park (1995) noted that whether the coping mechanisms are active or passive may partly depend on which religion is being practised. Loewenthal, Cinnirella, Evdoka, and Murphy (2001) found that Muslims in the UK were more likely than Jewish and Christian respondents to say that they would use religious coping behaviour and were less likely to say that they would seek social support or professional help for depression. Ebaugh, Richman, and Chafetz (1984) found that members of charismatic Catholic, Christian Scientist, and Baha’i groups reported different ways of responding to crises. By contrast, Cinnirella and Loewenthal (1999) found considerable consistency in ideas about the role of religion in coping among a variety of ethnic and religious groups, including Jews, Muslims, Christians, and Hindus, in the UK.

One way that religion can play a part in the problem-solving process is by providing a framework for understanding life’s challenges (Spilka, Shaver, & Kirkpatrick, 1985). Religious beliefs and practices may guide the individual in the process of defining a problem, attributing causality for the problem, and selecting solutions to

the problem (Pargament et al., 1988; Siegel & Schrimshaw, 2002). This involves making sense of events in terms of an ontological understanding that consists of deeply held views about how, at a fundamental level, the world works. An active approach to coping, therefore, implies an understanding of the world in which one may exert personal influence. Conversely, a passive approach would suggest a perceived world in which problem resolution is beyond personal control.

Beliefs: Social Axioms

To gain an understanding of the contribution of religion to the problem-solving aspect of coping, one should consider the ontological beliefs that underpin the adoption of different coping strategies and the relation of these assumptions to different religions. Leung et al. (2002) define social axioms as generalised beliefs that are basic and abstract, and are likely to relate to a variety of social behaviours across contexts, actors, targets, and time periods. In short, they are statements about “how the world functions” (p. 289) and, as such, they are precisely the kind of ontological assumptions that should link religion and coping. Leung et al. (2002) have developed the Social Axioms Survey (SAS) as a measure of these beliefs.

The SAS consists of five dimensions: *Social Cynicism*, *Reward for Application*, *Social Complexity*, *Fate Control*, and *Religiosity* (formerly known as *Spiritual Consequences*). *Social Cynicism* includes a biased view against some groups, a mistrust of social institutions, and a disregard of ethical means for achieving an end: a fundamentally negative, or amoral, view of human nature. The *Reward for Application* subscale investigates a general belief that knowledge, effort, and careful planning will have positive results. *Social Complexity* indicates that there are no rigid rules, but multiple ways of achieving a goal, and also that human behaviour is inconsistent. *Fate Control* corresponds with the belief that life events are predetermined and under the control of nonhuman forces, although there are ways for people to influence these outcomes. *Religiosity* endorses the reality of supernatural forces and the positive social and psychological functions of religious beliefs and institutions. In the present paper we anticipate that social axioms are likely to be related to religious beliefs as they are both bases for ontological understanding, and that they will also be related to coping strategies, which are founded in such beliefs about how the world works.

One strength of the SAS is that it has been developed with a particular emphasis on cross-cultural validity, having been tested in over 40 national groups (Bond, Leung, Au, Tong, Reimel de Carrasquel et al., 2004). This is particularly important in the context of studying different religious groups, as culture and religion are inextricably interwoven (Geertz, 1973; Pargament, 1997; Tarakeshwar et al., 2003) and easy and valid transferability of scales from one cultural context to another should not be assumed (Van de Vijver & Leung, 1997). There are few studies as yet linking social axioms and coping. Bond, Leung, Au, Tong, and Chemonges-Nielson's (2004) found that fate control was related to avoidant coping strategies

and social complexity was related to active approaches among Hong Kong Chinese. Safdar, Lewis, and Daneshpour (2006) found that reward for application predicted active coping among Iranians in Iran.

There have been no studies to our knowledge specifically comparing Muslims and Christians on social axioms. Nevertheless, there are data from predominantly Muslim and predominantly Christian countries that could be used as the basis for hypothesis generation. Previous research shows that although citizens of some Muslim countries score high on social cynicism (e.g., Pakistanis, $M=3.29$), others do not (e.g., Iranians, $M=2.88$ and Indonesians, $M=2.72$). Furthermore, citizens of non-Muslim countries, such as Taiwanese ($M=3.30$) and Germans ($M=3.32$), are among citizens with high scores on social cynicism (Leung & Bond, 2004). The scores for the Americans, British, and Canadians, however, are at the lower end of the range: $M=2.65$, $M=2.75$, and $M=2.63$, respectively, lower than citizens from all the predominantly Muslim countries, as reported by Leung and Bond (2004).

The picture is similarly inconsistent for fate control. It has been reported that although some Muslims score high on fate control (e.g., Pakistanis, $M=3.15$; Nigerians, $M=3.08$; Malaysians, $M=2.96$; Indonesians, $M=2.91$; Iranians, $M=2.85$), so do some non-Muslims, such as Thais ($M=3.14$) and Georgians ($M=3.00$; Leung & Bond, 2004). However, citizens from few Muslim countries score low on fate control: the two lowest are Lebanese ($M=2.47$), from a country which is part Christian, and Turks ($M=2.68$), who come from one of the few secular Muslim states. Again, the UK, US and Canadian citizen scores on fate control are lower than in all the predominantly Muslim countries in Leung and Bond's (2004) data set: $M=2.35$, $M=2.46$, and $M=2.43$, respectively.

Previous research shows that countries with large Muslim populations score high on religiosity. In Leung and Bond's (2004) data set, Pakistanis ($M=4.40$), Malaysians ($M=4.30$), Indonesians, ($M=4.22$), and Iranians ($M=4.15$) are citizens of the four countries where the highest scores were obtained on religiosity. By contrast, samples from secular countries such as Belgium ($M=2.58$), Norway ($M=2.55$), and France ($M=2.60$) scored low on religiosity. Safdar et al. (2006) also found Iranians to be higher than Canadians on religiosity. Again, in Leung and Bond's (2004), samples from the same four Muslim countries (Indonesia, Iran, Malaysia, and Pakistan) scored higher on reward for application ($M=4.14$, 4.12 , 4.29 , and 4.15 , respectively) than samples from the USA, the UK, Canada, and France ($M=3.66$, 3.46 , 3.74 , and 3.56 , respectively), and lower on social complexity (Indonesians, $M=3.96$; Iranians, $M=3.79$; Malaysians, $M=3.93$; Pakistanis, $M=3.77$; Americans, $M=4.10$; British, $M=4.11$, Canadians, $M=4.2$, French, $M=4.08$). Safdar et al. (2006) also found Iranians scoring higher than Canadians on reward for application, but they found no difference in social complexity. In respect of the last finding, Leung and Bond's (2004) data should be given greater weight than Safdar et al.'s (2006), as the earlier study comprises a major global project rather than a single three-sample comparison.

Hypotheses

The following hypotheses were derived from the above review:

- Hypothesis 1: We predicted that there would be a significant difference between Muslims and Christians on endorsement of social axioms. Specifically, Muslims were expected to score higher on Reward for Application, Social Cynicism, Religiosity, and Fate Control than Christians, but lower on Social Complexity.
- Hypothesis 2a: We predicted that Social Complexity and Reward for Application would be associated with Proactive Coping. This is based on Bond, Leung, Au, Tong, & Chemonges-Nielson (2004) and Safdar et al.'s (2006) findings linking Social Complexity and Reward for Application to active coping.
- Hypothesis 2b: We further predict that the two religious groups would differ on Proactive Coping. This assumes that the previous two hypotheses are supported. Specifically, it was predicted that Muslims would show higher levels of Proactive Coping than Christians. This would put beliefs in a mediating role between religion and coping.

Method

Design

Religious Practice This construct was operationalised using the question, “Do you practice your religion?” and only including for analysis data from those who gave an affirmative answer to this question. Enquiring about specific behaviours (e.g., mosque/church attendance) could be flawed as a measure of religious involvement, as participants might not perform the particular behaviours enquired about and yet still consider themselves to be actively religious. Additionally, the particular behaviours could have different significance across religious groups. Participants’ subjective perception of whether they are practising Muslims or Christians was judged to be the most valid indicator in this instance.

Religion and culture are interwoven, but the intention in the present context was to address the former specifically. Sampling in only one country would risk the unnoticed influence of national idiosyncracies. However, sampling from culturally diverse societies would make it difficult to disentangle religious and nonreligious cultural influences. In the present study, samples were taken in three geographically and politically distinct nations where one would predict (on the basis of known cultural differences, e.g., Hofstede, 2001) relatively few differences in broad values, or beliefs (Leung & Bond, 2004): Canada, US and UK Differences between the religious groups that hold true across all three locations could thus confidently be regarded as the product of religious influence, rather than a product of a pattern of intergroup relations that could be specific to one country.

It is worth noting, however, that the Muslims are living in societies that are predominantly Christian. If there are acculturation effects, this would be anticipated to attenuate any differences between the religious groups. Safdar et al. (2006), for example, found that Iranians in Canada scored in between Canadians in Canada and Iranians in Iran on all dimensions of the SAS.

Measures

After giving informed consent, participants completed a questionnaire asking for demographic information (i.e., religion, level of education, age, and gender) and including measures of social axioms and coping.

Social Axioms Survey To measure social axioms, the 60-item Social Axiom Survey developed by Leung et al. (2002) was used. This instrument, measured on five-point Likert scales, is divided into five subscales, Social Cynicism (e.g., ‘Young people are impulsive and unreliable’), Reward for Application (e.g., ‘Adversity can be overcome by effort’), Social Complexity (e.g., ‘To experience various life styles is a way to enjoy life’), Fate Control (e.g., ‘Most disasters can be predicted’), and Religiosity (e.g., ‘One feels safer in the world through a belief in a supreme being’). Cronbach alphas for the five subscales and the factor structure of the SAS are presented below (see results).

Coping Proactive coping was measured using the Proactive Coping subscale of the Proactive Coping Inventory (Greenglass et al., 1999), which has 14 items, measured on 4-point Likert scales. Proactive Coping consists of autonomous goal-setting with self-regulatory cognitions and behaviours relating to goal attainment (e.g., ‘I am a “take-charge” person’) (Greenglass et al., 1999).

Participants

A total of 329 individuals participated in the study (127 males and 263 females). All were university students and they were recruited from three large universities in the USA, Canada, and the UK. One hundred and ninety-six identified themselves as Christians, 63 as Muslim, 41 as Jewish, 4 as belonging to other religions, and 10 did not report their religion. Two hundred reported that they practised their religion and 97 reported that they did not (eight were missing). Given that we were interested in practising Christians and Muslims, we removed participants who stated that they did not practise their religion. We also removed those who identified with a religion other than Christianity or Islam. The final sample comprised of 180 participants (USA, $N=60$; Canada, $N=68$; UK, $N=52$) who identified themselves as practising Muslims ($N=60$; 24 males, 31 females,

and 5 missing data) or Christians ($N=120$; 34 males, 76 females, and 10 missing data). Sixty-three per cent of the practising Muslims were 20 years old or younger, 32% were between 21 and 30, and 3% above 30. Thirty per cent of the practising Christians were 20 years old or younger, 55% were between 21 and 30, and 15% were above 30.

Results

First, factor analyses using Varimax rotation were conducted on the SAS scores for each of the two samples. An examination of the scree plots and variance accounted for by five factors (versus four or six) showed that a five-factor solution was best for the two samples. This five-factor solution explained 33% of the variance for the Christian sample and 44% for the Muslim sample. In the next step, to improve Cronbach's alpha, items that had a low (or negative) item-total correlation were omitted from the scale. This procedure has previously been employed to identify which of the items (intended to be etc) are applicable and meaningful in a particular culture (Kurman & Ronen-Eilon, 2004; Leung & Bond, 2004; Safdar et al., 2006). The subscales Social Complexity and Fate Control required modification (i.e., omission of items) in both samples.¹ The same items were omitted for both samples to maintain metric equivalence. The Social Cynicism, Reward for Application, and Religiosity subscales were not improved by omission of items in either of the samples.

Cronbach alphas for all subscales are presented separately for both samples in Table 1. The reliability for two of the subscales, Social Cynicism and Reward for Application, was well within the acceptable range for both samples (Cronbach alphas between 0.71 and 0.80). For two of the other subscales, Fate Control and Religiosity, the reliability coefficients were moderate (Cronbach alpha between 0.63 and 0.69) and within the range reported by other researchers (e.g., Kurman & Ronen-Eilon, 2004). However, the reliability of Social Complexity was undesirably low for the Christian sample (Cronbach alpha 0.46), although it was within an acceptable range for the Muslim sample (Cronbach alpha 0.70). We are not clear why such a difference exists between the two samples, although the low reliability for this particular subscale is consistent with previous reports involving other samples (Safdar et al., 2006).

¹ Three items were omitted from Social Complexity subscale:

“One's appearance does not reflect one's character.”

“To experience various lifestyles is a way to enjoy life.”

“Acting according to principles prevents the need to make troublesome decisions.”

Two items were omitted from Fate Control subscale:

“A person's talents are inborn.”

“All things in the universe have been determined.”

Table 1 Cronbach's alpha for each of the SAS dimensions and proactive coping for Muslim and Christian samples

	Muslim	Christian	Total sample
Social Cynicism (19-item)	0.74	0.73	0.75
Reward for Application (16-item)	0.80	0.71	0.75
Social Complexity (11-item)	0.70	0.46	0.56
Fate Control (6-item)	0.68	0.69	0.64
Religiosity (12-item)	0.63	0.63	0.65
Pro-active Coping (14-item)	0.82	0.78	0.79

Note: Two of the above subscales, Fate Control and Social Complexity, were modified to improve the scale reliability. Metric equivalence was maintained, however, across the two samples.

Comparison of Muslims and Christians on Social Axioms

A 2 (religion) \times 3 (country of residence) Multivariate Analysis of Variance (MANOVA) was conducted to predict scores on the five SAS dimensions and Proactive Coping. The results indicated significant multivariate main effects for religion: Wilks' Lambda=.84, $F(6, 155)=5.00$, $p<.001$, $\eta^2=0.16$, and for country of residence: Wilks' Lambda=.70, $F(12, 312)=5.09$, $p<.001$, $\eta^2=0.16$. No interaction between religion and country of residence was found: Wilks' Lambda=.94, $F(12, 310)=0.77$, $p=.68$.

Consistent with Hypothesis 1, Muslim and Christian participants differed significantly on three of the five dimensions of social axioms: Social Cynicism, $F(1, 160)=15.34$, $p<.001$, $\eta^2=0.09$, Fate Control, $F(1, 160)=7.26$, $p<.01$, $\eta^2=0.04$, and Religiosity, $F(1, 160)=6.20$, $p<.01$, $\eta^2=0.04$, with the Muslim participants scoring significantly higher than the Christian participants in each case (all $ps<.01$). The two religious groups, however, did not differ on the Social Complexity, $F(1, 160)=0.79$, $p=.38$ or Reward for Application, $F(1, 160)=2.11$, $p=.15$ subscales. This provides partial support for Hypothesis 1. It was also found that the two religious groups did not differ on Proactive Coping, $F(1, 160)=3.34$, $p=.07$.

There were also significant effects for place of residence on two of the five dimensions of social axioms: Social Complexity, $F(2, 160)=12.53$, $p<.001$, $\eta^2=0.13$ and Religiosity, $F(2, 160)=19.80$, $p<.001$, $\eta^2=0.20$. Place of residence, however, did not have any effect on Social Cynicism, $F(2, 160)=0.89$, $p=.41$, Reward for Application, $F(2, 160)=1.91$, $p=.15$, or Fate Control, $F(2, 160)=2.64$, $p=.07$. Furthermore, there was no significant effect for place of residence on Proactive Coping, $F(2, 160)=0.15$, $p=.86$. Post hoc analyses using Bonferroni's adjustment indicated that British participants scored significantly lower than the Canadian and American participants on Social Complexity and Religiosity (all $ps<.001$). The means and standard deviations for the two religious groups and the three countries of residence on the five SAS dimensions and Proactive Coping are reported in Table 2.

Religion, Social Axioms, and Proactive Coping The zero-order correlation coefficients were calculated for the five SAS dimensions and Proactive Coping

Table 2 Means and standard deviations, for each SAS dimension and proactive coping for Muslim and Christian samples

	Muslim (N=56)	Christian (N=116)	Canada (N=66)	USA (N=56)	UK (N=50)
Social Cynicism					
M	2.84	2.59	2.71	2.64	2.65
SD	0.43	0.41	0.44	0.41	0.46
Reward for Application					
M	3.73	3.60	3.70	3.69	3.52
SD	0.48	0.40	0.46	0.44	0.37
Social Complexity					
M	3.73	3.78	<u>3.88^{UK}</u>	<u>3.87^{UK}</u>	<u>3.50</u>
SD	0.49	0.36	0.39	0.42	0.27
Fate Control					
M	2.71	2.30	2.35	2.64	2.33
SD	0.68	0.66	0.58	0.74	0.73
Religiosity					
M	3.77	3.49	<u>3.79^{UK}</u>	<u>3.74^{UK}</u>	<u>3.13</u>
SD	0.55	0.48	0.41	0.50	0.38
Proactive Coping					
M	2.97	3.08	3.00	3.04	3.10
SD	0.41	0.36	0.39	0.39	0.37

Note: Significantly different means comparing Muslims and Christians are in bold and significantly different means comparing Canadian, American, and British participants are in italic and underlined, $p < .01$.

(see Table 3). Reward for Application ($r = .20$, $p < .01$) and Social Complexity ($r = .16$, $p < .05$) correlated significantly with Proactive Coping. To test Hypotheses 2a and 2b, we conducted a hierarchical regression analysis predicting Proactive Coping using the five SAS dimensions in Block 1 and gender, religion, and country of residence plus the interactions of the SAS dimensions with the three demographic variables in Block 2 as predictor variables. Two dummy variables were created for the three categories of place of residence. Furthermore, to create the interaction factor in Block 2, the SAS dimensions were centred first, and then the interactions with gender, religion, and place of residence were computed. This allowed us to measure whether the effects of social axioms on coping are moderated by the demographic variables.

The results indicated that Block 1 was significant, $F(5, 147) = 2.70$, $p < .05$ (see Table 4), Social Cynicism ($B = -0.21$, $p < .01$) and Reward for Application ($B = 0.19$, $p < .05$) predicted Proactive Coping. This provides partial support for Hypothesis 2a. Block 2, however, was not significant, $F(24, 128) = 1.55$, $p > .05$, neither was the R^2 change ($R^2 = .14$, $p = .25$), indicating that the effect for social axioms was robust and there was no mediation effect for social beliefs. Therefore, Hypothesis 2b was not supported. The only factor that was significantly related to coping in Block 2 was Gender ($B = -0.16$, $p < .05$), with women reporting less likelihood of using Proactive Coping than men.

Table 3 Correlation coefficients between all variables ($N=178$)

	1	2	3	4	5	6	7	8
1. Social Cynicism	–							
2. Reward for Application	0.21**	–						
3. Social Complexity	–0.03	0.45***	–					
4. Fate Control	0.46***	0.12	–0.04	–				
5. Religiosity	0.03	0.49***	0.53***	0.04	–			
6. Proactive Coping	–0.15	0.20**	0.16*	–0.001	–0.002	–		
7. Religious Affiliation ⁺	–0.28**	–0.13	0.06	–0.26**	–0.25**	0.13	–	
8. Place of Residence ⁺⁺	0.07	0.02	0.04	–0.15*	0.06	–0.05	0.12	–

Note: * $p < .05$; ** $p < .01$; *** $p < .001$.

⁺ Religious affiliation (1 = Muslim, 2 = Christian).

⁺⁺ Place of residence: (1 = USA, 2 = UK, 3 = Canada).

Table 4 Summary of hierarchical regression analysis for variables predicting proactive coping

Variable	Proactive coping		
	R^2	B	B (standardised)
Model 1	0.08*		
Social Cynicism		–0.21**	–.23**
Reward for Application		0.19*	0.22*
Social Complexity		0.12	0.13
Fate Control		0.07	0.13
Religiosity		–0.14	–0.19
Model 2	0.23		
Social Cynicism		–0.70	–0.76
Reward for Application		–0.29	–0.33
Social Complexity		0.83	0.85
Fate Control		–0.10	–0.18
Religiosity		0.43	0.57
Gender		–0.16*	–0.20*
Religion		–0.001	–0.003
Country of Residence, dummy 1		0.001	0.002
Country of Residence, dummy 2		0.02	0.02
Social Cynicism × Religion		0.16	0.47
Reward for Application × Religion		0.17	0.50
Social Complexity × Religion		–0.03	–0.09
Fate Control × Religion		–0.05	–0.26
Religiosity × Religion		–0.26	–0.92
Social Cynicism × Location		0.08	0.21
Reward for Application × Location		–0.18	–0.49
Social Complexity × Location		–0.08	–0.19
Fate Control × Location		0.001	0.003
Religiosity × Location		0.08	0.23
Social Cynicism × Gender		–0.08	–0.14
Reward for Application × Gender		0.21	0.41
Social Complexity × Gender		–0.29	–0.48
Fate Control × Gender		0.21	0.61
Religiosity × Gender		0.02	0.05

* $p < .05$; ** $p < .01$.

Discussion

The present study measured social beliefs and proactive coping in two religious groups across three countries. Hypothesis 1 was supported in part: Muslims scored higher than Christians on Religiosity, Social Cynicism, and Fate Control, as had been predicted, but not on Reward for Application. Furthermore, we did not find the predicted difference on Social Complexity (i.e., Muslims did not score lower than Christians). This last result, however, matches the results obtained by Safdar et al. (2006) comparing Iranians and Canadians in which this was the only subscale where there was no difference between groups.

The preliminary results indicated that country of residence exerted some influence on responses and, therefore, it was included in the analyses along with gender. In the present data, the British participants scored significantly lower than the Canadian and American participants on Social Complexity and Religiosity. This indicates that country of residence has some influence on expressed beliefs, as the acculturation literature might lead one to expect (Berry, Phinney, Kwak, & Sam, 2006; Safdar et al., 2006). These Muslim groups, as acknowledged above, are largely from immigrant communities, and are in the process of adjusting to three culturally close, but not identical cultures and social systems.

The differences in the present data echo those of Leung and Bond (2004), in which a British sample scored lower than the American and Canadian samples on Religiosity, and lower than the Canadians, but not the American sample, on Social Complexity. This would appear to reflect a process of acculturation, with differences between groups of immigrants, with a common religion, to three countries, resembling the pattern of differences between national samples from those three countries. These differences appear to be relatively minor in the present context, as there were no interactions between religion and country of residence, and the lower score for the British sample on Religiosity did not obscure an overall difference between Muslims and Christians. The strategy of sampling across three culturally close societies was intended to buffer the overall findings against such local effects, and the strategy justified the view that religion would contribute to belief more than country of residence. In the present context, the finding of higher religiosity among Muslims than Christians is a robust difference between the religious groups, consistent across different countries.

The findings that Muslim participants were more inclined than Christian participants to endorse beliefs indicating Religiosity accords with previous research using social axioms (Leung & Bond, 2004; Safdar et al., 2006) and other measures of religiosity (Martin, Kirkcaldy, & Siefen, 2003; Saroglou & Galand, 2004). It also makes intuitive sense, for to be a practising Muslim may involve more of a day-to-day commitment (e.g., praying five times a day) than to be a practising Christian, particularly in countries where Islam is a minority religion, and in the context of the perceived Islamophobia that is felt by some Muslims living in "the West", post-9/11 (Inayat, 2002).

Muslims also scored higher than Christians on Social Cynicism and Fate Control, as predicted on the basis of Leung and Bond's (2004) and Safdar et al.'s (2006)

findings. It may be plausible to interpret the higher scores on Social Cynicism, and to some degree on Fate Control, in light of the Muslims' minority status in the three countries from which samples were drawn, and their corresponding sense of disempowerment. If one perceives a social environment where one's effort is not rewarded (and the Muslim group did not score higher on Reward for Application as had been hypothesised) because of a negatively valued minority status, one may well become inclined towards social cynicism. USA Today and the British Broadcasting Company (BBC) have both reported on the improved responses from potential employers, in the USA and UK, respectively, to Muslims who changed their names to sound non-Muslim (BBC, 2005; USA Today, 2002). Such a climate could explain a degree of social cynicism, and also a perception of the influence of fate.

However, Leung and Bond's (2004) research shows that, although respondents in some non-Muslim countries have produced high scores on Social Cynicism (e.g., Taiwan, $M=3.30$; Germany, $M=3.32$), citizen means for predominantly Muslim countries (e.g., Pakistan, $M=3.29$; Iran, $M=2.88$) are higher than those for the countries from which our samples were drawn (USA, $M=2.65$; UK, $M=2.75$; Canada, $M=2.63$; Leung & Bond, 2004). Therefore, the difference observed here between Christians and Muslims on Social Cynicism is not just to do with minority status. One cannot argue that Muslim respondents generally tend to score high relative to non-Muslims on Social Cynicism. They do, however, appear consistently to score higher than citizens from the cluster of English-speaking nations. Leung and Bond (2004) do not report Australian data, but the New Zealand citizen scores are consistent with this observation ($M=2.77$).

One might speculate that Muslims, whether they are individuals from immigrant communities in predominantly Christian countries, or national samples from predominantly Muslim countries, express Social Cynicism as a product of perceived disempowerment. One might also speculate that there is something about Islam, or the history of democracy in Muslim countries, that inclines people and nations to social cynicism. It is associated with lower life satisfaction (Leung & Bond, 2004), and with no evidence to cite for either of the latter speculations, we would tentatively interpret these higher Social Cynicism scores as reflecting an inequitable perceived social reality for our three Muslim samples.

The case is similar with Fate Control. Leung and Bond (2004) reported that some Muslim and some non-Muslim countries are high scoring on this scale, although there are few predominantly Muslim countries with a low national mean. Leung and Bond (2004) also report that difficult socio-economic conditions are associated with stronger beliefs in Fate Control and Religiosity, and they suggest that these beliefs represent ways of coping with adverse environments. This association of religiosity with difficult circumstances has been observed before. For example, Hood, Spilka, Hunsberger, and Gorsuch (1996) noted that, "People turn to their gods in time of trouble and crisis" (p. 386), and the idea is not a new one. Hume wrote of religion that it arose "from a concern with regard to the events of life, and from the incessant hopes and fears which actuate the human mind" (Hume, 1757, p. 27, cited in Morris, 1987). Morris (1987) traces the idea back to Euripides.

An interpretation that combines religious motivations and socio-political circumstances, then, appears most appropriate to the interpretation of Muslims' higher scores on Religiosity, Fate Control, and Social Cynicism. The absence of a difference between Christians and Muslims on Social Complexity is in line with some previous research (Safdar et al., 2006); the fact that the Muslims in our sample did not score higher than the Christians on Reward for Application may be because they live in societies where they perceive that, for them, as Muslims, application is sometimes not rewarded as it might be (BBC, 2005; Inayat, 2002; USA Today, 2002).

Hypothesis 2a was supported only to the extent that there was some linkage between social beliefs and coping. However, the specific predictions made for Hypothesis 2a based on previous findings (that Social Complexity and Reward for Application would be associated with active coping; Bond, Leung, Au, Tong, & Chemonges-Nielson, 2004; Safdar et al., 2006) were only partially supported. Reward for Application predicted Proactive Coping but Social Complexity did not. Higher scores on Social Cynicism, however, predicted less Proactive Coping. No links were evident between the other SAS dimensions and coping. Neither was there a difference between the two religious groups on Proactive Coping (no support for Hypothesis 2b). Although Muslims scored higher than Christians on Social Cynicism, and Social Cynicism was inversely related to Proactive Coping, the link was not sufficiently strong for Muslims to report less Proactive Coping.

It may be the case that differences between our findings and the limited previous research on axioms and coping may reflect the fact that we are measuring proactive rather than reactive coping. In this context, the finding of an inverse relation between Social Cynicism and Proactive Coping makes intuitive sense. If one is more inclined to mistrust social institutions and expects negative outcomes, as is the case for those high on social cynicism, proactive strategies are likely to seem less attractive (because, potentially, less fruitful) than for those who are less cynical.

It is noteworthy that for both religious groups, a higher level of expressed social cynicism was associated with less Proactive Coping. This simply means that social cynicism is associated with less Proactive Coping for both Muslims and Christians, rather than having different implications for the two groups. There are elements of shared tradition, of course, between the two religions, so their adherents should not be expected to differ in every regard (Lewis et al., in press). Also, perhaps social cynicism generalises to cynicism in other domains, in this case the value of different coping strategies. Leung and Bond (2004) refer to it as a negative worldview, so it is a generalised construct.

Reward for Application was also associated with Proactive Coping, as had been hypothesised. It has now been found to be associated with both (re)active (Safdar et al., 2006) and proactive coping. This is not a consistent finding, however, as Bond, Leung, Au, Tong, and Chemonges-Nielson (2004) did not find it among Hong Kong Chinese. In that post-Confucian context, it is the acknowledgement of Social Complexity that is associated with active coping strategies. In our data, collected in countries known to be individualistic (Hofstede, 2001), and where, therefore,

individual agency is given greater value, there was no association between Social Complexity and coping for either group. However, Reward for Application, the dimension of beliefs asserting the value of individual agency, is the relevant dimension in this context. The associations between Social Complexity and active coping in a Confucian context, and between Reward Application and active coping in an individualistic context, are plausible and interpretable associations.

Limitations and Further Work

In broad terms, some relationship between beliefs and coping is still a hypothesis that commends itself, but there is no reason why religion should necessarily interact with beliefs. In other words, Christian Social Cynicism and Muslim Social Cynicism are similar, at least in their relation to coping. However, consideration of a more multifaceted model of coping, perhaps specifically of religious coping (Pargament et al., 1990), would be instructive. Pargament et al. (1994) also advocate the examination of separate religious coping strategies. Further study could also be directed toward the context in which religious individuals practise both proactive and avoidant coping. Loewenthal et al. (2001) suggest that the efficacy of different religious coping strategies is context-specific.

It would also be desirable to look at outcomes such as well-being, to consider the appropriateness of differences in coping styles. In the present study, those who report more Social Cynicism also report less Proactive Coping, and those who report a belief in Reward for Application report more Proactive Coping. To what extent these reflect adaptive strategies is not clear with no outcome measures, although, in a recent study, (Lai, Bond, & Hui, 2007) social cynicism has been associated with lower life satisfaction.

One possible confound is ethnicity: Muslims and Christians may not be homogeneous across the three national samples. To some extent this renews the discussion as to the validity of sampling by religion rather than nationality, or ethnicity, but they are approaches that augment rather than preclude each other. It would be desirable to match samples in terms of ethnicity, but our sample size does not permit this. There are no anomalous results by nation of residence that might be interpretable in these terms, however. The only national differences (the British respondents scoring lower on Social Complexity and Religiosity) are entirely consonant with previous findings (Leung & Bond, 2004).

Conclusion

The present study is the first to consider the links between different religious groups across different countries of residence. It is also the first, to our knowledge, that attempts to link social axioms, and coping behaviour to religious affiliation.

This study has important implications for cross-cultural research where culture is usually operationalised in terms of nationality. It highlights the importance of slicing global culture in other ways, supporting the argument of Tarakeshwar et al. (2003) that religion is somewhat “overlooked” in cross-cultural research, despite its manifest importance in the lives of many people.

There are also links between social beliefs and coping. Findings to date suggest that Social Cynicism is inversely related to Proactive Coping (this study), that Reward for Application (this study and Safdar et al., 2006) and Social Complexity (Bond, Leung, Au, Tong, & Chemonges-Nielson, 2004) are positively associated with active coping, and that Fate Control is related to passive coping (Bond et al. 2004). These relations are not consistent across studies, although some of the differences found to date are plausible and interpretable. Clearly, there is considerable scope for more research here as the cross-cultural variation in the associations of social beliefs, religion, and coping is an intriguing emergent area.

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Social Axioms in Greece: Etic and Emic Dimensions and their Relationships with Locus of Control

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Abstract Two studies investigated emic and etic aspects of social axioms and their correlates. In Study 1, an exploratory factor analysis with Greek university students revealed five factors resembling the original structure presented by Leung and Bond (2004). There were also indications for a sixth factor comprising of some Reward for Application items and some Social Cynicism items, reflecting stereotypic beliefs about justice and success and the “just world” belief. Based on a Procrustean rotated solution, five salient factors were identified and they were also in line with the original structure. A “hit matrix” (Georgas & Mylonas, 2006) containing all possible Tucker Φ comparisons among the factor solutions for six countries—including Greece— supported factor equivalence. However, discrepancies were present for specific factors or specific countries, implying a possible need for emic items. This was attempted in Study 2, with 558 Greek students and 20 additional items for examining a culturally Greek approach to social axioms. The five social axiom dimensions were verified afresh, but an additional culture-specific factor of Social Cynicism stressing competition in human relations emerged. These six social axiom factors were correlated with locus of control. Based on canonical correlation functions, Religiosity and Social Cynicism were correlated, as expected, with External Locus of Control, and Reward for Application was correlated with Internal Locus of Control. These correlations were further supported by discriminant function analyses, with an additional link between Fate Control and External Locus of Control.

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Beliefs, Values, and Attitudes as Components of a Belief System

“An adult probably has incorporated tens or hundreds of thousands of beliefs, thousands of attitudes, but only dozens of values” (Rokeach, 1968, p. 124). Attitudes, as “relatively enduring organization of beliefs that prepare individuals to live in appropriate ways” within a certain society (Rokeach, 1968), are classified according to various dimensions, such as the specific characteristics of their position within one’s belief system, e.g., “central” versus “peripheral attitudes,” or “more important” versus “less important attitudes,” or their inner organization consisting of various opinions and subbeliefs or the degree of their differentiation and complexity (Rokeach, 1968).

Within one’s belief system, which contains ideologies, faiths, values, opinions, and attitudes, values are desirable, abstract goals that apply across a wide range of situations. They express what people believe they “ought” to or “should” do, in terms of the salient social rules and norms (Kluckhohn, 1951), thereby composing a belief system substructure which is hierarchically organized in terms of the importance of each value separately or of the importance of groups of values. (Rokeach, 1968, 1973, 1979). Thus, values serve as guiding principles in people’s lives for action, justification, and events evaluation (Rokeach, 1973; Schwartz, 1992).

The total number of general beliefs, organized into architectural systems within an individuals’ belief system, has describable and measurable structural properties, in terms of the central–peripheral role within one’s belief system, the resistance to change, their influence on the rest of the belief system components, and their role in determining one’s behavior (Rokeach, 1968, p. 7–11). Along a central–peripheral continuum, Rokeach classified five classes of beliefs: the “primitive, pro-ideological beliefs that are socially shared,” the “primitive beliefs that are not socially shared,” the “authority beliefs” that refer to positive or negative authorities or reference persons or groups, the “derived beliefs” from authoritative sources, and the “inconsequential beliefs” that refer to arbitrary matters of taste. “The innermost core of belief system” (1968, p. 6) consists of some basic premises, regardless of the degree of social consensus they require, on physical and social reality, and the nature of self and others.

The relation between the different types of general beliefs and values and what is their association with personality traits, attitudes, and specific behaviors is of particular importance. Correlations of the Schwartz 10 value types with a variety of variables revealed associations with age, gender, education (background variables), religiosity, political orientation (types of attitudes), autocratic behavior in interpersonal relationships (personality), as well as with orientation of one’s studies, and consumer behavior, such as the use of mobile telephones and alcohol consumption (specific behaviors) (Schwartz et al., 2001).

Schwartz’s project on values has demonstrated and validated the universality of 10 value types across a wide range of cultures: Stimulation, Self-Direction, Universalism, Benevolence, Conformity, Tradition, Security, Power, Achievement,

and Hedonism. At the individual level of analysis, this theory of values proposed the idea that people within different cultures, rather than nations, develop a common set of value types. The theory verified the distinctiveness of the 10 value types and that this value structure is applicable in a very wide range of samples—representative national ones, school teachers, university students, adolescents, and samples of workers. Although some studies with the Schwartz Value Survey (SVS) demonstrated the unsuitability of the SVS instrument for less educated, non-Western populations (Schwartz et al., 2001), it has been verified that this value theory is not dependent on method of measurement and it is robust to individuals' gender, age, and level of education (Schwartz, 1992, 1994; Schwartz & Bardi, 2001; Schwartz & Boehnke, 2004).

Values, Attitudes, and Social Axioms as Behavioral Predictors

Social axioms are defined as general beliefs or basic premises that are used as guidelines for people's behavior in various situations. They seem to reflect pancultural human difficulties that people deal with and as a result constitute universal types of beliefs that individuals endorse, to varying degrees, within and across diverse cultural settings (Bond, Leung, Au, Tong, & Chemonges-Nielson, 2004; Leung et al., 2002; Leung & Bond, 2004). Social axioms and their five dimensions—Social Complexity, Religiosity, Social Cynicism, Fate Control, and Reward for Application—seem to be the “core etics” of general beliefs that are universalistic. Rokeach's primitive, proideological beliefs, socially shared or not (1968) could be regarded as the “ancestors” of social axioms in the international literature of social psychology.

In formal logic an “axiom” is “A statement for which no proof is required and which, thus occurs as a premise of many arguments, but as a conclusion of none” (The Pan Books Dictionary of Philosophy, 1979, p. 32). An axiom may be accorded this status either because it is held to be a self-evident truth (i.e., axioms of Euclidean geometry), or to contribute with other axioms to such a definition of truth (The Pan Books Dictionary of Philosophy, 1979, p. 32). The “axiomatic characteristic” of social axioms consists in their being true to one's personal experiences, but not as a consequence of any procedures of scientific validation (Leung et al., 2002). Such a characteristic also makes social axioms quite similar to “faiths ... that refer to beliefs accepted by an individual as true, good and desirable, regardless of social consensus or objective evidence perceived as irrelevant” (Rokeach, 1968, p. 125).

The five universal dimensions of social axioms are not “attitudes,” as attitudes have explicit evaluative components (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975; Triandis, 1977). On the contrary, social axioms play an organizing role for the cognitive system of an individual and are related to a variety of social behaviors across cultures. They also seem to augment attitudes' predictive power for behavior, an output that has been recently demonstrated for political attitudes

(Keung & Bond, 2002). The main common ground between attitudes (Katz, 1960) and social axioms is at the functional level, as social axioms promote the same functions as attitudes: the instrumental function, the ego-defensive, the value-expressive and the cognitive organization of the world functions (Leung et al., 2002).

Additionally, social axioms, unlike values, are general, abstract guiding beliefs that deal with human survival and effective functioning in specific social and physical environments (Leung et al., 2002). The link between an individual's specific everyday functioning, "behavioral tendencies" or "predispositions" and values has been demonstrated to be restricted mainly to associations with styles of conflict resolution, vocational choice, and coping styles (Bond et al., 2004; Morris et al., 1998; O' Connor & Shimizu, 2002; Sagiv, 2002). The 10 value types of Schwartz's circular value structure were strongly associated with voting behavior (Barnea & Schwartz, 1998) and with macroworries (i.e., worries about environment, drug addiction, or crime increase), but were not associated with specific life goals, leaving room for other individual differences to exercise their influence (Schwartz, Sagiv, & Boehnke, 2000). A meta-analytic review with 21 samples from 15 countries found that in Greece there is an extremely low positive association between Religiosity and Benevolence, along with a negative association between Religiosity and Universalism, a finding that also appeared in other European Mediterranean countries, i.e., Italy, Spain, and Portugal, and in Turkey and Israel (Saroglou, Delpierre, & Dernelle, 2003). In another study with a sample of Greek students, value priorities—*theoretical, economic, aesthetic, social, political, religious values*—along with an "emic set" of ten traditional educational values—seemed to be related to political and religious group membership (Gari, Mylonas, & Karagianni, 2005).

The above moderate or weak link between values or value priorities with specific life strategies, goals, and behaviors, which seems to be a common finding of many attempts to predict behavior (Feather & O'Brien, 1987), has stimulated researchers to study general beliefs in an attempt to explain cross-cultural differences and similarities in individual behaviors (Leung, Bond, & Schwartz, 1995). Social axiom dimensions as general, axiomatic beliefs (Leung et al., 2002) do not overlap much with values, as the correlations between them are mostly low but in a meaningful and interpretable manner; they thus represent two distinct types of construct (Leung et al., 2007). However, social axioms seem to add to the predictive power of what is provided by values in regard to an individual's behavior (Bond et al., 2004). For instance, Reward for Application seems to be related to the choice of conventional jobs that contain routine tasks and to a reconciling conflict resolution; Religiosity is related to a reconciling and, paradoxically, competitive approach to conflict resolution; Social Cynicism is related negatively to cooperation and compromising in resolving conflicts; Social Complexity is associated with collaboration and reconciliation in resolving conflicts (Bond et al., 2004; Leung et al., 2002).

What people believe about the world in general, their expectancies for various outcomes, and the way they understand forces of control over their actions seem to influence their decision making as well as the way they handle stressful encounters. According to Folkman and Lazarus (1980), the types of behavior a person performs to deal with stressful situations, the demands of which one perceives as above

her/his capabilities or strength, can follow either problem-focused or emotion-focused strategies. Previous studies have correlated the five dimensions of social axioms with coping strategies, locus of control, and other behavioral correlates. Fate Control has been related to the “wishful thinking” coping style, while Social Complexity was associated with a problem-solving coping style (Bond et al., 2004; Leung et al., 2002).

In a previous Greek research project (Gari, Panagiotopoulou, & Lyberopoulou, 2006), an effort was made to identify correlations between the five axiom dimensions and various coping strategies (problem-focused coping, distancing, wishful thinking, social support, aggressive problem solving). A sample of 192 individuals (students of social sciences and adults working at insurance companies) aged 18–30 years filled out the 82-item questionnaire version of the Social Axioms Survey (SAS) (Leung et al., 2002) and the Folkman and Lazarus (1980) questionnaire of coping strategies (in its Greek form, Karademas, 1998). Pearson correlations between coping strategies and social axioms along with other correlational techniques indicated significant relations of coping strategies with social axioms. Social Complexity was correlated with problem solving strategies ($r=0.38$); Fate Control was correlated with wishful thinking ($r=0.40$), and with distancing ($r=0.30$); Religiosity and Social Cynicism did not correlate with any of the coping strategies. The findings regarding Fate Control and Social Complexity were in line with results from previous surveys (Bond et al., 2004; Safdar, Lewis, & Daneshpour, 2006).

Study 1

The aim of Study 1 was to investigate the social axioms factor structure at the individual level of analysis in Greece. The initial exploratory models (principal components analysis and orthogonal rotation solution) tested for the presence of five factors in the Greek data set of 371 Greek students, collected along with the initial data set for the cross-cultural comparison among 40 cultures using the 60-item SAS version (Leung & Bond, 2004).

The initial outcomes were rather unpromising with factors not clearly identifiable and with the indication of a sixth factor in the structure. A large amount of the error variance in these analyses was due to ceiling/floor effects present for the Social Complexity and the Social Cynicism items for Greece. Therefore, items with extreme skewness were transformed. Either squared values transformations or square root transformations were initially applied to these items. The transformed scores were then transformed back to the original SAS scoring scale, through the calculation of their z -scores, followed by a scaling transformation. Then, factor analysis was recomputed on the transformed values and the remaining original score values for all the 60 items.

The outcomes for this analysis of the Greek data were much clearer for at least two of the five factors: Fate Control and Religiosity, which were now formed by

the main core of their items in the original factor structure (Leung et al., 2002). However, the Social Cynicism, Reward for Application, and Social Complexity factors still did not seem to be strongly identified in the structure. Finally, a sixth factor appeared and was comprised of some Reward for Application items (“Failure is the beginning of success,” “Every problem has a solution,” “The just will eventually defeat the wicked” and “Good deeds will be rewarded, and bad deeds will be punished”) and some Social Cynicism items (“People deeply in love are usually blind,” “Old people are usually stubborn and biased,” and “Young people are impulsive and unreliable”). This sixth factor included stereotypic beliefs about justice and success and the “just world” belief, reflecting some specific socioeconomic characteristics and the generation gap in Greece, prominent since the 1970s.

For the five-factor solution in this sample, a target rotation was calculated, by employing as targets the factor structure reported by Leung et al. (2002) on their Hong Kong and Venezuelan data factor structure. This Procrustean approach was expected to unfold the hidden similarities with the theoretically expected structure, possibly masked in the above solution due to culturally extraneous variables or other metric shortcomings, and at the same time inform us about the departure of the above solution due to the target rotation itself.

To do so, we employed the algorithm proposed by Van de Vijver and Leung (1997) in respect to Procrustean rotations and the respective Tucker Φ indices. Indeed, we identified five salient factors (Religiosity with all 8 items, Reward for Application with 10/14 items, Social Cynicism with 14/18 items, Social Complexity with 9/12 items, and Fate Control with 7/8 items) with Tucker Φ indices ranging from 0.85 to 0.93 which was the best we would expect. Some of these target rotated factors seemed to depart somewhat from the original non-target-rotated five-factor solution for the Hong Kong and Venezuelan data (Leung et al., 2002), but were in line with the 39 items that the pan-cultural item solution presented by Leung and Bond (2004) for 40 cultural groups of students. In general, most of the items that do not load on their intended five factors are among the excluded items in the study with 40 cultural groups (Leung & Bond, 2004).

Using a method proposed by Georgas and Mylonas (2006), we proceeded to test for factor equivalence (Van de Vijver & Poortinga, 2002) between the Greek target rotated factor solution and an overall solution (target rotated) for the data available for six countries in all (Greece, UK, India, Spain, USA, and Hong-Kong), and also on a country-by-country basis. A “hit matrix” (Georgas & Mylonas, 2006) was constructed containing all possible comparisons among the factor solutions across countries in the form of Tucker Φ coefficients. From this matrix, it was evident that factor equivalence was supported to a rather high level. Despite the high equivalence level though, discrepancies were still present in factors or countries in the analysis (Gari, Mylonas, & Panagiotopoulou, manuscript in preparation; Gari, Panagiotopoulou, Mylonas, & Pavlopoulos, 2004).

This outcome further implied the possible need for emic or culture-specific items for future Greek research, although the same suggestion might hold true for other countries as well. By “clustering” the six countries through a trigonometric variant of multidimensional scaling (as described in Veligeas, Mylonas, & Zervas, 2007

and in Sidiropoulou, Mylonas, & Argyropoulou, in press) and using the information contained in the “hit matrix” of equivalence, we arrived at three clusters of countries for which the target rotated factor structures reached nearly perfect equivalence with the theoretically expected one. This supported the idea of testing for a few “culture-specific” items further in the Greek population, since by aggregating the information for the countries within each cluster, the discrepancies in factor equivalence were minimal or nonexistent; this logic follows the hypothesis that “culture-specific” issues might substantiate the nonequivalence levels before clustering. This outcome means that these discrepancies could be attributed, at least somewhat, to cultural parameters that were “smoothed” when the clusters of countries were the units in the analysis. This approach of testing for a possible cultural facet was carried out in Study 2.

Study 2

A sample of 558 Greek students was sourced from three Greek universities, one from Northern Greece (Democritus University of Thrace), one from the University of Crete (southern Greece), and one from central Greece (National and Kapodistrian University of Athens). The samples were administered the SAS 82-item version (Leung et al., 2002), although the set of 60 items was finally used for the statistical analyses (Leung & Bond, 2004), as the remaining items have not generated additional factors and added nothing important to the results of the study with students from 40 cultural groups (Leung & Bond, 2004). Additionally, reasons of comparability with Study 1 suggested our using the 60-item, short version.

Additionally, a new set of 46 items¹ constructed so as to theoretically represent a culturally Greek approach to social axioms was also administered to the same student samples. These items were derived from 11 discussion-interviews with small groups of students at the University of Athens and through 29 semistructured interviews with small groups of students at the Universities of Thrace and Crete, but mainly at the University of Athens.

First, we needed some form of verification in respect to the presence of the five original SAS factors in our data. This should be tested with the original 60 SAS items as in Study 1. Indeed, a five-factor “picture” emerged, with 26.18% of the variance explained (principal components method with orthogonal rotation). However, as in Study 1, there were still strong indications that some emic influence was present, possibly “enriching” the Social Complexity factor (fourth in the structure) with three Social Cynicism items and one Reward for Application item, as presented in Table 1. Additionally, the Fate Control factor was not clearly identified, with some items cross-loaded or loaded on unexpected factors; also, 21 items were not a part of the

¹The initial number of items was 50, but 4 were excluded in the beginning of analysis due to metric problems of extreme skewness and large variability bimodal distributions.

Table 1 Exploratory factor analysis for the 60 SAS items (five-factor solution)

Items	R	SCyn.	RA	SComp	FC
#60 (R) Belief in a religion helps one understand the meaning of life	0.75	-0.05	0.05	-0.08	0.08
#1 (R) Religious faith contributes to good mental health	0.74	-0.02	0.14	-0.03	0.10
#71 (R) Belief in a religion makes people good citizens	0.68	-0.01	0.06	-0.25	0.10
#14 (R) There is a supreme being controlling the universe	0.62	0.02	0.00	0.04	0.26
#11 (R) Religious people are more likely to maintain moral standards	0.61	0.08	0.11	-0.17	0.00
#17 (SComp) There are phenomena in the world that cannot be explained by science	0.54	0.17	0.03	0.12	0.13
#48 (R) Religious beliefs lead to unscientific thinking	0.52	-0.26	0.03	0.07	-0.08
#5 (R) Religion makes people escape from reality	0.50	-0.24	0.02	0.04	-0.04
#12 (R) Ghosts or spirits are people's fantasy	0.39	-0.01	-0.15	0.15	0.29
#56 (SCyn) Powerful people tend to exploit others	-0.01	0.61	0.02	0.09	-0.28
#53 (SCyn) Power and status make people arrogant	-0.01	0.51	0.11	0.06	-0.25
#36 (SCyn) Old people are usually stubborn and biased	-0.09	0.50	-0.09	-0.10	0.05
#59 (SCyn) The various social institutions are biased towards the rich	-0.08	0.49	0.13	0.01	-0.01
#75 (SCyn) The kind-hearted people usually suffer losses	0.04	0.48	-0.05	0.20	0.16
#22 (SCyn) It is rare to see a happy ending in real life	-0.05	0.45	-0.13	-0.15	0.04
#64 (SCyn) Kind-hearted people are easily bullied	0.10	0.41	0.10	0.28	-0.06
#57 (SCyn) People will stop working hard after they secure a comfortable life	0.06	0.38	0.04	-0.17	-0.13
#26 (SCyn) Females need a better appearance than males	0.15	0.36	0.11	-0.20	0.06
#78 (RA) Hard working people will achieve more in the end	0.20	0.01	0.56	0.04	0.05
#2 (RA) Caution helps avoid mistakes	0.12	0.10	0.52	0.13	-0.02
#43 (RA) One will succeed if he/she really tries	0.13	-0.16	0.50	0.09	0.04
#19 (RA) Knowledge is necessary for success	0.08	0.14	0.47	0.08	0.00
#16 (RA) One who does not know to plan his or her future will eventually fail	-0.16	0.20	0.43	-0.08	0.14
#42 (F) There are certain ways to help us improve our luck and avoid unlucky things	0.02	0.10	0.41	-0.08	0.26
#27 (RA) Adversity can be overcome by effort	0.04	0.02	0.40	0.33	-0.10
#28 (RA) Every problem has a solution	0.03	-0.12	0.38	0.03	-0.07
#39 (RA) Good deeds will be rewarded and bad deeds will be punished	0.34	-0.02	0.37	-0.35	0.01
#32 (SComp) There is usually one way to solve a problem	0.12	-0.18	-0.02	0.49	-0.08
#40 (SComp) One's behavior may be contrary to his/her true feelings	0.07	0.07	0.00	0.45	0.10
#13 (SComp) Individual effort makes little difference in the outcome	-0.05	-0.15	0.14	0.42	-0.07

#81 (SCyn) Harsh laws can make people obey	0.11	0.20	0.11	-0.42	0.17
#4 (SComp) Human behavior changes with the social context	0.04	0.13	0.06	0.39	-0.01
#30 (SComp) One has to deal with matters according to the specific circumstances	-0.06	0.26	0.36	0.39	0.09
#7 (SComp) People have opposite behaviors on different occasions	-0.05	0.10	0.11	0.38	0.05
#66 (SCyn) Old people are a heavy burden on society	-0.04	0.30	-0.23	-0.36	0.24
#20 (SCyn) Young people are impulsive and unreliable	0.21	0.28	-0.02	-0.35	0.09
#24 (F) Individual characteristics, such as appearance and birthday, affect one's fate	0.16	0.01	-0.16	-0.08	0.59
#77 (F) There are many ways for people to predict what will happen in the future	0.07	-0.01	0.18	-0.15	0.45
#3 (F) Good luck follows if one survives a disaster	0.07	-0.07	0.06	-0.12	0.43
#9 (F) Fate determines one's successes and failures	0.30	0.13	-0.32	-0.12	0.32
#38 (F) A persons' talents are inborn	0.28	0.22	-0.14	0.01	0.16
#23 (RA) Mutual tolerance can lead to satisfactory human relationships	0.25	0.18	0.25	0.16	-0.15
#70 (RA) A modest person can make a good impression on people	0.22	0.12	0.21	0.04	0.01
#62 (SCyn) It is easier to succeed if one knows how to take short-cuts	0.00	0.34	-0.08	-0.06	0.28
#73 (SCyn) People deeply in love are usually blind	-0.14	0.29	-0.03	0.13	0.26
#52 (SComp) To plan for possible mistakes will result in fewer obstacles	-0.09	0.28	0.31	0.27	0.05
#82 (SCyn) Most people hope to be repaid after they help others	-0.01	0.26	0.08	0.02	0.06
#34 (F) Most disasters can be predicted	-0.18	0.07	0.34	-0.20	0.25
#68 (RA) The just will eventually defeat the wicked	0.04	-0.06	0.34	-0.29	-0.08
#50 (RA) Social justice can be maintained if everyone cares about politics	-0.20	-0.09	0.30	0.12	0.11
#35 (SComp) To deal with things in a flexible way leads to success	0.01	0.08	0.26	0.33	0.27
#76 (SCyn) To care about societal affairs only brings trouble for yourself	0.16	0.18	-0.17	-0.31	0.20
#31 (RA) Competition brings about progress	0.09	0.14	0.02	0.20	0.34
#47 (SComp) To experience various life styles is a way to enjoy life	0.03	0.07	0.12	0.07	0.34
#46 (SCyn) Humility is dishonesty	-0.28	0.13	-0.01	-0.17	0.31
#8 (SComp) One's appearance does not reflect one's character	0.17	-0.04	-0.05	0.04	-0.14
#44 (RA) Failure as the beginning of success	0.00	-0.16	0.20	0.02	0.24
#55 (F) All things in the universe have been determined	0.00	-0.09	-0.03	0.01	0.22
#51 (SComp) Current losses are not necessarily bad for one's long-term future	0.06	0.00	0.01	0.00	-0.01
#79 (SCyn) Significant achievement requires one to show no concern for the means needed for that achievement	-0.05	0.03	0.07	-0.22	0.18
% of variance explained	7.04	5.41	5.15	4.67	3.91

Note: Items 5 (R), 12 (R), 13 (SComp), 32 (SComp), and 48 (R) have been recoded and are reversely interpreted in the factors.

structure at all. However, the need for identifying the basic five-factor structure in the data was accomplished, at least to a satisfactory level.²

This five-factor solution was tested for its factor congruence with the Leung et al. (2002) Hong Kong and Venezuelan factor structure (comparable to the factor equivalence testing procedures applied in Study 1). The results showed that all five factors in this study were similar but not identical to the factors of the 2002 solution. For the Religiosity factor, Tucker Φ was 0.86; for the Social Cynicism factor, Tucker Φ was 0.88; for the Reward for Application factor, Tucker Φ was 0.84; for the Social Complexity factor, Tucker Φ was 0.78 (possibly due to the inclusion of the Social Cynicism items); and for the Fate Control factor, Tucker Φ was 0.68 (possibly due to the small number of Fate Control items in the current solution). This “similar but not identical” outcome once again indicated some possibility of a sixth factor or of some emic items in our data.

By calculating a six-factor solution, two of the five social axiom dimensions—Social Cynicism (third factor) and Fate Control (fifth factor)—were clearly present, but the dimensions of Religiosity (first factor) and Reward for Application (second factor) were not so clearly identified. The fourth factor was a “surprise” bipolar dimension, which included four items with a negative sign from the Social Complexity dimension and four items from the Social Cynicism dimension bearing positive signs.

These eight items reflected a possible cultural dimension of thinking that combines Social Complexity and Social Cynicism items in a contrasting fashion. Through this thinking mode, complex societal reality becomes unidimensional and less complicated when the “human factor” is taken out of the frame: harsh laws prevail, young persons are restricted, the old are rejected and social issues do not matter. When “human factor” is put back into the societal frame, people are hiding their feelings, there are complex solutions to a problem and people are unstable in their behavior and efforts. With a mean score of 3.95 ($SD = .42$), the Greek participants seemed to feel that this is a complex world and that the human parameter is one of its complexities that incorporates instability, a variety of alternative solutions and individual’s efforts for specific outputs.

Additionally, the sixth factor was also not clearly identified, as it was a combination of two items from the Reward for Application dimension, one item from the Social Complexity dimension and one item from the Social Cynicism dimension, combining competition, progress, success, and justice. In all, the five-factor and the six-factor solutions for the 60 SAS items resulted in about the same latent structure, but the five-factor solution was closer to the original theory; for the six-factor solution, the “cultural” element was more apparent, mainly revealed in the bipolar

²A five-factor solution for a subset of 40 SAS items was also computed and the five dimensions were more apparent. The exclusion of the 20 SAS items was the result of an iterative metric procedure, along with unidimensional factorial structures, computed for each of the dimensions followed by the detection of the nonconforming items. Still, this procedure is a rather crude “Procrustean” way of analyzing the SAS items and it was not adopted, although it identified the five dimensions more clearly than did the analysis for the 60 SAS items.

dimension of the fourth factor that combined the Social Complexity and the Social Cynicism dimensions.

Having described the structure for the 60 SAS items as clearly as possible, the next planned step was to combine those 60 original items with a part of the 46 items devised specially for the "Greek approach" through the following procedure: (a) We initially selected 35 items out of the 46 by employing a "communality" criterion; items with an estimated within-scale multiple R^2 index greater than 0.25, thus sharing at least 25% of the common scalar variance, were selected. (b) By computing the orthogonally rotated, five-factor structure (principal components method) for the 35 items, we arrived at a final set of 20 items with the highest positive loadings on each of the five dimensions present. For reasons of brevity, these items will be referred to as "the Greek salients" from this point onwards.

For the new set of 80 items (initial 60 SAS version along with the 20 Greek salients) an exploratory factor analysis was recomputed (principal components analysis and orthogonal rotation, Table 2). Six factors were present (explaining 28.23% of the total variance), five of which were the original dimensions of social axioms including 18 Greek salients, except for the Fate Control dimension on which no Greek salient appeared. Two of the 20 Greek salients loaded on none of the six factors in the solution. Nine Greek salients, along with five original SAS items, formed the third factor.

In detail, the first factor was named "Religiosity" and consisted of eight Religiosity dimension items, one Social Complexity dimension item ("There are phenomena in the world that cannot be explained by science"), and four Greek salients ("Love for home country and Orthodox religion are precious life guidelines," "The human soul lives after death," "Our present life actions will define our progress in next life," and "A supreme force punishes people for their bad actions").

The second factor was identified as "Social Cynicism," and consisted of eight Social Cynicism items and three Greek salients ("A highly demanding career and family success are incompatible goals for women," "Women become vindictive due to their fear of being underestimated," and "Most people would cheat others if they had a personal benefit").

The third factor was named "Social Complexity," and consisted of five Social Complexity items and the following nine Greek salients: "In private companies one's appearance may help his/her professional career," "A healthy body exists only in a healthy soul," "Family peace is a basis for a balanced life," "A beautiful appearance is highly helpful to a professional career, especially for women," "Family problems influence all the rest of life domains," "Difficulties in life make us stronger," "For a successful marriage mutual tolerance is demanded," "Rest contributes to better achievement," and "Strong criticism could energize us." This complexity factor incorporates many interpersonal themes and content areas.

The fourth factor was named "Reward for Application," with six items from the original SAS pool and one Greek salient ("Tough efforts result in success").

The fifth factor, resembling Social Cynicism, was named "Cynicism and Competition," and consisted of four Social Cynicism items from the original SAS pool, one Greek salient ("The extremely selfish people end up alone"), and

Table 2 Exploratory factor analysis for the 80 social axioms items (60 SAS items and 20 “Greek” salients—six-factor solution)

Items	R	SCyn	SComp	RA	Cyn&C	F
#60 (R) Belief in a religion helps one understand the meaning of life	0.76	0.002	-0.06	0.006	0.001	-0.02
GR Love for home country and Orthodox religion are precious life guidelines	0.75	0.00	-0.05	0.11	0.04	0.05
#1 (R) Religious faith contributes to good mental health	0.75	0.03	0.02	0.18	-0.02	-0.01
#71 (R) Belief in a religion makes people good citizens	0.69	0.011	-0.19	0.09	0.02	0.03
GR Human soul lives after death	0.66	-0.09	0.11	-0.06	0.04	0.21
#14 (R) There is a supreme being controlling the universe	0.64	0.05	0.15	-0.04	-0.04	0.17
GR Our present life actions will define our process in next life	0.61	0.06	-0.07	-0.01	0.07	0.27
#11 (R) Religious people are more likely to maintain moral standards	0.59	0.19	-0.09	0.17	0.00	-0.11
GR A supreme force punishes people for their actions	0.58	0.14	-0.16	0.01	0.08	0.26
#5 (R) Religion makes people escape from reality	0.51	-0.17	0.02	0.08	-0.15	-0.12
#48 (R) Religious beliefs lead to unscientific thinking	0.51	-0.24	0.00	0.06	0.00	-0.06
#17 (SComp) There are phenomena in the world that cannot be explained by science	0.49	0.17	0.23	0.02	0.03	-0.01
#12 (R) Ghosts or spirits are people’s fantasy	0.39	-0.02	0.23	-0.17	-0.02	0.23
#22 (SCyn) It is rare to see a happy ending in real life	-0.05	0.49	-0.05	-0.14	0.04	-0.05
#36 (SCyn) Old people are usually stubborn and biased	-0.11	0.48	-0.09	-0.10	0.10	-0.01
#66 (SCyn) Old people are a heavy burden on society	0.01	0.47	-0.16	-0.18	-0.08	0.13
GR A high demanding career and family success are incompatible goals for women	0.05	0.45	-0.05	0.01	-0.07	0.00
#26 (SCyn) Females need a better appearance than males	0.11	0.44	-0.01	0.14	0.07	-0.03
#20 (SCyn) Young people are impulsive and unreliable	0.21	0.44	0.15	0.06	-0.03	0.02
#62 (SCyn) It is easier to succeed if one knows how to take short-cuts	0.01	0.42	0.10	-0.04	-0.13	0.06
#81 (SCyn) Harsh laws can make people obey	0.14	0.41	-0.22	0.13	-0.04	0.11
GR Women become vindictive due to their fear of being underestimated	-0.05	0.41	0.10	0.03	0.11	0.27
#57 (SCyn) People will stop working hard after they secure a comfortable life	0.02	0.38	-0.08	0.04	0.14	-0.15
GR Most people would cheat others if they had a personal benefit	-0.06	0.36	0.20	-0.01	0.28	0.04
GR In private companies, one’s appearance may help to his/her professional career	0.03	0.20	0.50	-0.07	-0.02	0.19
GR A healthy body exists only in a healthy soul	0.08	0.01	0.45	0.07	0.19	0.00
GR Family peace is a basis for a balanced life	0.17	-0.14	0.43	0.17	0.39	-0.11
GR Beautiful appearance is strongly helpful for professional career, especially for women	0.10	0.35	0.43	-0.03	0.07	0.03

GR Family problems influence all the rest life domains	0.01	0.00	0.42	0.06	0.28	-0.02
#30 (SComp) One has to deal with matters according to the specific circumstances	-0.11	0.14	0.41	0.33	0.00	0.02
#40 (SComp) One's behavior may be contrary to his/her true feelings	0.01	-0.13	0.40	-0.03	0.07	0.05
GR Difficulties in life make us stronger	0.18	0.02	0.40	0.24	0.14	0.02
#35 (SComp) To deal with things in a flexible way leads to success	0.02	0.12	0.39	0.33	-0.23	0.02
GR For a successful marriage mutual tolerance is demanded	0.14	-0.04	0.38	0.16	0.30	-0.14
#32 (SComp) There is usually one way to solve a problem	0.07	-0.24	0.38	0.05	-0.18	-0.26
GR Rest contributes to better achievement	0.03	-0.08	0.37	0.22	0.17	-0.06
GR Strong criticism could energize us	0.00	-0.04	0.37	0.11	0.00	0.12
#4 (SComp) Human behavior changes with the social context	-0.02	0.02	0.36	0.07	-0.03	-0.14
GR Tough efforts result to success	0.13	-0.10	0.12	0.61	0.03	-0.04
#78 (RA) Hard working people will achieve more in the end	0.19	-0.03	0.04	0.58	0.10	0.06
#2 (RA) Caution helps avoid mistakes	-0.08	0.04	0.10	0.54	0.00	-0.06
#19 (RA) Knowledge is necessary for success	0.02	0.11	0.13	0.50	1.01	-0.06
#43 (RA) One will succeed if he/she really tries	0.12	-0.18	0.13	0.48	0.07	0.13
#16 (RA) One who does not know to plan his/her future will eventually fail.	-0.14	0.27	-0.01	0.41	0.00	0.09
#27 (RA) Adversity can be overcome by effort	0.00	-0.10	0.33	0.37	0.08	-0.09
#64 (SCyn) Kind-hearted people are easily bullied	-0.01	0.07	0.28	-0.01	0.54	-0.02
#56 (SCyn) Powerful people tend to exploit others	-0.09	0.34	0.12	-0.05	0.45	-0.24
GR The extremely selfish people end up alone	0.11	0.17	0.06	0.25	0.42	0.07
#75 (SCyn) The kind-hearted people usually suffer losses	0.01	0.25	0.29	-0.13	0.42	0.11
#31 (RA) Competition brings about progress	0.11	0.26	0.30	0.10	-0.39	0.04
#59 (SCyn) The various social institutions are biased towards the rich	-0.12	0.33	0.12	0.03	0.39	0.04
#77 (F) There are many ways for people to predict what will happen in the future	0.08	0.02	-0.06	0.04	0.11	0.59
#24 (F) Individual characteristics, such as appearance and birthday, affect one's fate	0.22	0.14	0.07	-0.19	-0.09	0.52
#3 (F) Good luck follows if one survives a disaster	0.13	-0.01	0.00	0.03	0.02	0.49
#34 (F) Most disasters can be predicted	-0.17	0.16	-0.14	0.28	-0.01	0.35
#39 (RA) Good deeds will be rewarded and bad deeds will be punished	0.34	0.05	-0.29	0.033	0.18	0.15
#38 (F) A persons' talents are inborn	0.27	0.20	0.10	-0.12	0.11	0.08
#8 (SComp) One's appearance does not reflect one's character	0.16	-0.09	0.01	-0.05	0.02	-0.11

(continued)

Table 2 (continued)

Items	R	SCyn	SComp	RA	Cyn&C	F
GR Some jobs are created only for women and some other for men	0.25	0.34	0.05	0.05	0.04	0.06
#53 (SCyn) Power and status make people arrogant	-0.10	0.34	0.08	0.10	0.32	-0.24
#76 (SCyn) To care about societal affairs only brings trouble for yourself	0.18	0.34	-0.18	-0.14	-0.03	0.09
#46 (SCyn) Humility is dishonesty	-0.21	0.29	0.06	0.00	-0.20	0.26
#82 (SCyn) Most people hope to be repaid after they help others	-0.06	0.23	0.15	0.03	0.08	0.02
#7 (SComp) People have opposite behaviors on different occasions	-0.09	-0.06	0.33	0.04	0.06	0.04
#13 (SComp) Individual effort makes little difference in the outcome	-0.06	-0.22	0.33	0.17	-0.17	-0.15
#52 (SComp) To plan for possible mistakes will result in fewer obstacles	-0.15	0.15	0.30	0.28	.11	.00
#73 (SCyn) People deeply in love are usually blind	-0.13	0.24	0.25	-0.05	0.09	0.10
#9 (F) Fate determines one's successes and failures	0.32	0.16	0.08	-0.34	0.09	0.30
#28 (RA) Every problem has a solution	0.00	-0.13	0.08	0.34	-0.02	0.06
#42 (F) There are certain ways to help us improve our luck and avoid unlucky things	0.03	0.09	0.00	0.31	0.13	0.31
#50 (RA) Social justice can be maintained if everyone cares about politics	-0.17	-0.15	0.10	0.27	0.08	0.15
#70 (RA) A modest person can make a good impression on people	0.14	0.02	0.05	0.21	0.20	0.09
#23 (RA) Mutual tolerance can lead to satisfactory human relationships	0.18	-0.02	0.16	0.16	0.34	-0.14
GR The tough people are often isolated	0.16	0.02	0.04	0.22	0.32	0.20
#68 (RA) The just will eventually defeat the wicked	0.05	-0.10	-0.27	0.28	0.31	0.13
#51 (SComp) Current losses are not necessarily bad for one's long-term future	0.04	0.07	0.01	0.06	-0.15	-0.11
#44 (RA) Failure as the beginning of success	0.02	-0.15	0.03	0.17	0.01	0.31
#47 (SComp) To experience various life styles is a way to enjoy life	0.05	0.08	0.11	0.10	-0.03	0.25
#55 (F) All things in the universe have been determined	0.04	-0.02	0.00	-0.05	-0.15	0.19
#79 (SCyn) Significant achievement requires one to show no concern for the means needed for that achievement	-0.03	0.14	-0.15	0.07	-0.02	0.19
% of variance explained	7.61	4.96	4.86	4.45	3.27	3.08

Note: Greek salients are marked with "GR" in the table.

one item from the SAS Reward for Application dimension (“Competition brings about progress”). This factor may be interpreted as a byproduct of Cynicism following the argument of the Pre-Socratic philosopher Heraclitus of Ephesus (fifth century BC) that “War is the father of everything” (The Pan Books Dictionary of Philosophy, 1979, p. 135) following his doctrine that, “Logos³ keeps everything in order, although all things are in a state of flux.” The factor’s core meaning refers to a possibly competitive and cruel world, in which competition may hinder progress, and in which the individual causing cruelty is divinely punished and left alone in the end.

The sixth factor was named Fate Control and consisted of four items from the Fate Control dimension without any Greek salient input; it is of course the most weakly defined factor.

Social Axioms and Locus of Control in Greek Students

For exploring the six social axioms factors and the locus of control expectancies in Study 2 with the 558 Greek students, we collected data on internal–external locus of control by employing the Rotter’s I-E Scale (1966, Fakinos, 1979). This established scale assesses an individual’s general expectations about how reinforcement is controlled. It is a forced-choice scale, consisting of 29 pairs of items, each pair including one item tapping the external and another item the internal locus of control, with six pairs used as filler items.

A canonical correlation analysis was employed to compute as many canonical variates as necessary to explain the relationships in our data. The first set of variables in the analysis was the two Locus of Control indices (External and Internal) and the second set was the six social axiom dimensions. Factor scores were computed through the exploratory factor analysis models in Study 2 (as reported in Table 3).

Two canonical correlations were calculated. The first was 0.48 (23% of overlapping variance) and the second was effectively zero. With both canonical correlations included, $\chi^2(12)=145.24$, $p < .001$, $\lambda' = .77$. This result (statistically insignificant when removing the first canonical correlation) showed that there was only one canonical variate that explains the relationship between the two sets, and this variate was pursued further (Table 3).

With a cut-off correlation of 0.30 (Tabachnick & Fidell, 2001, p. 199), the variables forming the canonical variate are both Locus of Control variables (external and internal, as a bipolar set) and three axiom dimensions. Specifically, External Locus of Control along with Religiosity and Social Cynicism seem to group together at one end (negatively) of the canonical variate; Internal Locus of

³Logos [Λόγος] (*lóghos*), an ancient Greek term in Heraclitean philosophy meaning a kind of nonhuman intelligence that organizes the discrete elements in the world into a coherent whole. In Stoicism, Logos was equated to a kind of God who was a source of all the rationality in the universe (The Pan Books, Dictionary of Philosophy, 1979, p. 77, p. 199).

Table 3 Canonical correlation analysis: Canonical variate indices, variance extracted and redundancies between the locus of control set of variables and the set of variables of the six social axiom factors

Locus of Control Set	r'	Social axioms Factors set	r'
External Locus of Control	-0.39	F1 Religiosity	-0.36
Internal Locus of Control	0.62	F2 Social Cynicism	-0.47
<i>Variance extracted</i>	0.99	F3 Social Complexity	-0.20
<i>Redundancy</i>	0.23	F4 Reward for Application	0.77
		F5 Cynicism & Competition	-0.07
		F6 Fate Control	-0.15
		<i>Variance extracted</i>	0.17
		<i>Redundancy</i>	0.04

Canonical correlation = **.48** (variance overlapping = 23%)

Control and Reward for Application grouped together at the other end of the same continuum (canonical variate).

The next step was to further test for the relationship of the social axioms factors with Locus of Control in terms of Locus groups. That is, through discriminant function analysis, we tried to “predict” or correctly classify participants into an internal or an external group, using information from the six, social axiom factors. This might prove very useful in depicting the most important social axiom predictors of Locus of Control, but we should first, of course, define the groups (obviously two) with respect to locus of control.

We initially computed the z -scores within each variable (external and internal locus of control) for the total sample. Then we reversed the “internal LOC” z -scores, since if a participant had a z -score of $+X$ for external LOC, he/she was expected to have a z -score of $-X$ for internal LOC. By reversing the signs for the internal LOC z -scores, we could then average the two, to finally express LOC on a continuum with low values meaning internal LOC and high value meaning external LOC. The simple computation followed in the following formula:

$$z' = \frac{\sum_{i=1}^2 (z_i)}{2}, \quad (1)$$

where a positive z_i denotes external locus of control

For z' we first computed the Pearson product-moment correlation coefficients with all six factor scores. Not surprisingly, moderate indices were present with the first, the second, and the fourth factor (0.19–0.41, in absolute values). Specifically, the correlations of the z' index with the first to the sixth factor were: 0.19, 0.25, 0.11, -0.41, 0.04, and 0.08.

Then, the discriminant analysis model was tested for the two groups defined by those above 0 (external locus of control) and those below zero (internal locus of control) as the two classification groups. In the process following the above procedure, 275 participants (49.3%) were assigned to the “External” group and 284 (50.7%) were assigned to the “Internal” group of participants. The eigenvalue for this discriminant analysis function modeling was 0.24 (Wilks' Λ = 0.80, with a relevant χ^2 criterion for $df=2$ reaching 94.94 and $p < .001$). Although the classification

results did not reveal a “total-distinction” picture (70% of the overall cases were correctly classified), by computing the discriminant function coefficients (stepwise method), we arrived at the following indices (standardized canonical discriminant function coefficients): F1 (0.31), F2 (0.54), F4 (−0.79), and F6 (0.36). It is obvious that the outcomes from the canonical correlation are supported, with one additional component—that of the “Fate Control” (F6) factor, not identified by the canonical correlation procedures, but clearly active in discriminating between externally and internally driven individuals. In other words, Fate Control dimension seems to be weakly associated with External Locus of Control in our findings, but it is a basic criterion for differentiating an externality from an internality orientation of control, along with Religiosity, Social Cynicism, and Reward for Application.

General Conclusions

The exploratory factor analyses for the Greek samples in Study 1 and Study 2 both showed a recoverable structure of five factors resembling the original structure. Although employing the Procrustean rotations and the respective Tucker Φ indices contributed to the identification of five salient factors (Religiosity–Spirituality, Reward for Application, Social Cynicism, Social Complexity, and Fate Control), some of these target rotated factors also implied the possibility of some emic-type variance.

The strong possibility that some of the initial 60 items might be context-dependent and inappropriate for the Greek context, mainly within the space described by Social Complexity and Social Cynicism, pushed us to employ 20 additional Greek salients. With these emic items, although the five social axioms dimensions were verified, a somewhat differently defined factor or dimension of Social Cynicism was revealed. The main emphasis in this Social Cynicism dimension was competition in interpersonal relations. In other words, the new factor seemed to introduce the parameter of competition as an important functional element for the Greek dimension of Social Cynicism. Competition, as a dynamic feature of the relationship with out-groups, has been studied in the Greek cultural setting as a contrast to “*philotimo*,” whose meaning is associated with “cooperation, fairness and altruism” (Triandis & Vassiliou, 1972; Vassiliou, & Vassiliou, 1973).⁴ This emic factor of “Competitive Social Cynicism” seems to be functionally incorporated into the original five dimensions of social axioms for the Greek sample, and could be thought of as enriching the perspective on the original, universal social axioms dimensions (Bond et al., 2004; Leung & Bond, 2004).

Its possible presence could be tested in the same fashion in other cultural settings. It would be very interesting to further test a respectively enlarged pool of social axioms items, in various cultural settings, to assess possible expansion and enrichment of the five social axioms. In this vein, Leung and Bond are currently testing an enlarged pool of axiom items contributed by collaborators in ten

⁴Nevertheless, the Cynic tradition that first flourished in the third century BC in Greece was never organized into some kind of “School,” for it supported the ideas of freedom, self-sufficiency, self-discipline, and individualism (The Pan Books Dictionary of Philosophy, 1979, pp. 77–78).

countries to determine if the conceptual space covered by each dimension needs to be enlarged (personal communication).

In regard to the relationship between locus of control and the five social axioms, Religiosity and Social Cynicism seemed, as expected, to correlate with External Locus of Control, and Reward for Application with Internal Locus of Control. This correlation was first supported by canonical correlation for these three social axioms dimensions, and then it was further supported by discriminant analyses, with an additional link established between Fate Control dimension and External Locus of Control. These findings are in line with the relevant literature reporting that Social Cynicism is correlated positively with external locus of control and supernatural beliefs, and Religiosity is related positively to seeking advice from a spiritual adviser (Singelis, Hubbard, Her, & An, 2003); they could be interpreted as a further indication of a type of construct validity for the social axioms theorizing about the five original dimensions (Leung & Bond, 2004; Singelis et al., 2003).

We would expect that, within any culture, people endorsing the fundamental belief of “working hard to achieve” and of “rewarded efforts” would also orient themselves internally in respect to their actions and their outcomes. Indeed, the operational definitions of both constructs—belief and orientation—through the “reward for application” social axiom and the internal locus of control orientation seem to have verified such an expectation. On the other hand, being helpless and feeling helpless (operationally defined through Social Cynicism, Fate Control, and Religiosity) would normally correlate with an external justification for people’s actions (external locus of control, operationally assessed).

The fact that quite a satisfactory discrimination emerged between the internally and externally oriented participants in terms of locus of control, explained by four out of the six social axiom dimensions present with a satisfactory level of variance explained, partially supports the predictive and discriminatory power of social axiom dimensions when levels of manifest preferences or expectations are considered. Such discriminatory qualities are one of the most important prerequisites supporting the validity for a psychometric scale; such validity seems to be supported for the Greek data.

A very interesting finding was that two of the social axiom factors as present in the structure of the Greek, 80-item data set showed no relation to the Locus of Control Orientation. These dimensions were the “culturally bound” Social Cynicism factor and the original Social Complexity factor. The reasons are not apparent, although one might attribute the finding to the context-dependent nature of some of the items within these two factors. However, further testing, possibly in multilevel analyses, is necessary to clarify this issue.

Grasping the local points of view for Greece to attain emic knowledge on social axioms and how they could be enriched and expanded in various cultural settings, we gained an integrated view of the usefulness that an emic view may provide in studying social axioms. In comparing these emically defined social axioms with locus of control, we verified what has already been presented through an etic approach cross-culturally (Leung & Bond, 2004; Singelis et al., 2003), and also avoided the “derived etic” that could compromise the application of social axioms in the present stage of their study (Segall, Dasen, Berry, & Poortinga, 1990).

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Do General Beliefs Predict Specific Behavioral Intentions in Indonesia? The Role of Social Axioms within the Theory of Planned Behavior

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Abstract The purpose of the present study was twofold. First, the study aimed to validate the refined Bahasa Indonesian (BI) version of the Social Axioms Survey (BI-SAS). Confirmatory factor analysis showed that four out of the five dimensions of social axioms identified in the pancultural analysis, namely social cynicism, reward for application, religiosity, and fate control, were empirically robust as indicated by the dimensions' acceptable internal consistency (Cronbach alphas $\geq .60$) and significant factor loadings of their a priori items. Second, underpinned by theory of planned behavior (TPB), the study examined the role of social axioms as predictors of behavioral intentions in studying, donating, and praying, and of three proximal antecedents of such behavioral intentions (viz. the attitudes toward behavior, subjective norms, and perceived behavioral controls or PBCs). Multiple regression analyses demonstrated that social axiom dimensions had differential relationships with the attitudes, subjective norms, and PBCs of the three behavioral domains. For all behavioral domains, social axioms accounted for a significant amount of the variances in the attitude, subjective norm, PBC, and behavioral intention. Social axioms also explained a significant amount of the variance in the intention to study over and above the proximal antecedents of behavioral intention.

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Introduction

Psychology has always been concerned with the understanding of human behaviors. Values (i.e., what people regard as desirable and important as guiding principles in their daily lives) have been one of the most widely used psychological constructs used by social and personality psychologists to explain individuals' behaviors. Schwartz's (2005, 2006) notable effort to identify basic human values has resulted in a comprehensive set of values with cross-culturally equivalent meanings. Using his theory and measures, researchers can even go further than explaining individual behaviors by understanding why people in a particular culture are more inclined to act in a certain way than are people in another culture (i.e., unpackaging culture; see, e.g., Smith & Bond, 2003).

With the intent to find a complement for the value construct that is compatible in terms of comprehensiveness, universality, and nature (i.e., context-free, domain-general, abstract, broad), and thus can be used together with values to enhance the prediction of behaviors, Leung et al. (2002) have focused on studying social axioms (i.e., what people believe as true in their lives). To date, a five-dimension model of social axiom (social cynicism, social complexity, reward for application, religiosity, and fate control) has been empirically demonstrated to be relevant for people in more than 40 nations (Leung & Bond, 2004; Leung et al., 2002).

The purpose of the study reported in this chapter was twofold. First, using a recent and largest data set of social axioms that has been gathered in Indonesia thus far ($N = 712$), we aimed to validate the refined Bahasa Indonesian (BI) version of the Social Axioms Survey (SAS; Leung et al., 2002). Second, we embedded social axioms within the theory of planned behavior (Ajzen, 1991, 2005, 2007) and applied axioms as predictors of individuals' intentions to perform a diverse range of behaviors.

Social Axioms

According to Leung et al. (2002), social axioms are generalized beliefs about the social and physical environment, or the spiritual world, and are in the form of an assertion about the relationships between two entities or concepts. Five social axiom dimensions have been validated across cultures. As described by Leung and Bond (2004), the first dimension, social cynicism, refers to a negative belief about human nature and social events, a biased perspective against some groups of people, a mistrust of social institutions, and a belief that people disregard ethical means to achieve their ends. The second dimension, social complexity, indicates how much a person believes in situational flexibility and inconsistency as characterizing human behavior, and that there are no rigid rules but rather multiple ways to generate a given outcome. The third dimension, reward for application, represents a general belief that positive results can be achieved by applying effort, relevant knowledge, or careful planning. The fourth dimension, religiosity, refers to a set of beliefs that acknowledge the existence of supreme being and claim that religious practices bring about positive personal and social consequences. The fifth

dimension, fate control, describes a belief in the predetermined, but yet predictable and alterable, nature of important outcomes in human life.

Social Axioms in Indonesia

Despite the mushrooming of research on social axioms in many different cultures, such as Israel (Kurman & Ronen-Eilon, 2004), the Philippines (Bernardo, 2004, 2005), and the USA (Singelis, Hubbard, Her, & An, 2003; see also Leung & Bond, 2004 for a review), there is no such research to date that has examined social axioms in Indonesia, a society in which religion plays a major role. Indonesia is a Southeast Asian nation comprising 17,508 islands. With a population of over 234 million, Indonesia is the world's fourth most populous country and the most populous Muslim-majority nation, although it is not an Islamic state. Christianity (Roman Catholicism and Protestantism), Buddhism (including Taoism and Confucianism), and Hinduism are among other religions and beliefs that are officially acknowledged in the country. While the official language is BI, there are more than 700 different dialects. This is not surprising as there are more than 300 distinct native ethnicities in the country of which the largest is the Javanese (42%), followed by other smaller ethnicities, such as the Sundanese, the Bataks, and the Balinese. The Chinese in Indonesia are considered one of the ethnic minorities, comprising less than 2% of the population, but are economically influential.

Leung and Bond's (2004) hierarchical cluster analysis of citizen scores showed that Indonesians were part of the same cluster with Malaysians, Iranians, and Pakistanis, three predominantly Muslim countries. Specifically, on a scale of 1 to 5, Indonesia scored relatively high on religiosity (mean = 4.22) and reward for application (mean = 4.14), moderately high on social complexity (mean = 3.92), and relatively lower on fate control (mean = 2.91) and social cynicism (mean = 2.72). The high endorsement of religiosity seems to reflect well an anecdotal observation that Indonesians in general are religious and pious (see, e.g., Lubis, 1983 for a sociocultural analysis of the Indonesians).

Given Indonesia's multiculturalism, it is not only interesting but also important to study social beliefs among Indonesians across different cultural groups, in particular ethnic and religious groups. The variations in people's social beliefs may help explain why inter-ethnic and inter-religious conflicts have always occurred periodically in the country.

In this study, therefore, our first aim is to establish the validity of the SAS for use in Indonesia. Specifically, we examine the construct validity and psychometric properties (e.g., the subscales' internal consistency; items' factor loadings, means, standard deviations) of the BI version of the SAS or BI-SAS. Further, although Leung and Bond (2004) have made a point that people use social axioms, as they do values, to guide their behaviors in a variety of situations, studies using these general beliefs to predict behaviors are still scarce (but see, e.g., Bond, Leung, Au, Tong, & Chemonges-Nielson, 2004 for an exception). Therefore, the second aim of the study is to use social axioms in understanding why a particular behavior

is performed, which is in alignment with the mission of some existing attitude-behavior models, such as Ajzen's (2005) theory of planned behavior.

Theory of Planned Behavior

The theory of planned behavior (TPB; Ajzen, 1991, 2005, 2007) is an important social-cognitive model that aims to explain the volitional antecedents of intentional behavior. The theory postulates that individuals' intention is the most proximal and reliable predictor of their behavior. Intention reflects deliberate plans to act toward a specific target behavior, in a given context, and specific time frame. In the TPB model, behavioral intentions are proposed to mediate the influence of three key behavior-related beliefs, namely attitude, subjective norm, and perceived behavior control, on performance of the behavior (Ajzen, 1991, 2005, 2007). Attitudes reflect an individual's personal evaluation, either positive or negative, of performing the behavior of interest, subjective norms reflect the perceived social pressure from significant others with respect to performing or not performing the behavior under consideration, and PBC reflects the impact of perceived abilities and barriers toward engaging in the behavior of interest (Ajzen, 1991, 2005). Thus, these three, belief-based, personal, social, and control-related antecedents reflect underlying sets of beliefs that people hold toward their performance of the target behavior. To put it simply, people intend to perform a behavior when they evaluate it favorably, when they experience social pressure to perform it, and when they believe they have the capacity to do so (Ajzen, 2005).

While the TPB has demonstrated its efficacy in the prediction of behavioral intentions and actual behaviors in a variety of domains and contexts, ranging from physical activities in leisure time (Hagger, Chatzisarantis, Barkoukis, Wang, & Baranowski, 2005) to hunting behavior (Hrubes, Ajzen, & Daigle, 2001), it does not completely explain the variance in behavioral intentions and the actual behaviors across studies (see Armitage & Conner, 2001; Hagger, Chatzisarantis, & Biddle, 2002 for meta-analytic reviews). This shortfall may be due to the omission of other, unmeasured factors (Albarracin & Wyer, 2000; Bagozzi & Kimmel, 1995), and could be addressed by incorporating relevant psychological constructs from other theories, including Leung and Bond's (2004) model of social axioms.

Integrating Social Axioms into the Theory of Planned Behavior

According to Leung and Bond (2004), social axioms serve four functions: (1) to facilitate the attainment of individuals' important goals (instrumental), (2) to help individuals protect their self-worth (ego-defensive), (3) to serve as a manifestation of individuals' values (value-expressive), and (4) to help individuals understand the world (knowledge). In light of these functions, social axioms facilitate the channeling of individuals' behavior, "and provide mechanisms for explaining personal

outcomes, interpersonal exchanges and environmental events, both human and physical” (Leung & Bond, 2004, p. 131). More specifically, in their capacity as knowledge that helps the individuals understand the world, social axioms function as *generalized expectancies*. That is, in navigating their everyday lives, people need some assumptions of how their personal, social, environmental, and spiritual worlds function, based upon which they can make predictions for the outcomes of their actions. In other words, equipped with the knowledge about how the world operates, individuals use them accordingly to anticipate, guide, and rationalize behavior, and to become better able to manage their lives more effectively (Kruglanski, 1989), more specifically, in realizing their goals and avoiding undesirable outcomes.

TPB postulates that attitudes toward a behavior, subjective norms, and PBCs are underpinned by various beliefs (Ajzen, 2005). Specifically, attitudes toward a particular behavior are determined by beliefs about the consequences of performing that behavior (i.e., behavioral beliefs). Subjective norms are determined by beliefs that specific individuals or groups encourage or discourage engagement of the behavior, and whether or not these social referents themselves perform the behavior (i.e., normative beliefs). PBCs are theorized to be a function of beliefs about the presence or absence of factors that facilitate or impede performance of the behavior (i.e., control beliefs).

Further, the TPB makes a case that a host of personal and social background variables (e.g., age, gender, ethnicity, socioeconomic status, education, nationality, religious background, personality, intelligence, general attitudes, and values) may be related to and influence the beliefs people hold. The theory suggests that these individual difference variables influence behavioral intentions and actual behaviors indirectly through their effects on behavioral, normative, or control beliefs, and through these beliefs, on attitudes, subjective norms, or PBCs.

In this regard, social axioms as general beliefs can be viewed as one of the individual difference variables that underpin individuals’ attitudes, subjective norms, and PBCs. That is, social axioms as generalized expectancy beliefs will provide the individuals with an estimation or probability of the outcomes of their behaviors, or more specifically, the information about what to expect and what not to expect from their actions (cf., Leung & Bond, 2004). In other words, these general beliefs about how the world operates are presumed to act as a source of guidance in the formation of situation-specific attitudes, subjective norms, and PBCs. This suggests that individuals use social axioms, through their influences on behavior-specific attitudes, subjective norms, and PBCs, to consider whether or not they would intend, plan, decide, or be willing to perform a particular behavior, or not.

Behavioral Domains, Expected Outcomes, and Research Questions

In this study, the influence of social axioms on attitudes, subjective norms, PBCs, and behavioral intentions in three different domains of individual social behavior was examined. These domains pertain to studying, donating, and praying behaviors.

Specifically, we are interested in how individuals' general social beliefs are related to their behavior-specific attitudes, subjective norms, PBCs, and behavioral intentions in studying everyday, in donating money to street children (who are commonly seen in Indonesian cities, typically at almost all traffic lights), and in praying daily. These behavioral domains were selected because we considered that the participants in this study (i.e., Indonesian college students) are very likely to confront the opportunities to perform such behaviors in their daily lives, so that these behavior-relevant decision-assisting beliefs are easily accessible to them.

Based upon the underlying contents of the social axioms and the nature of the behavioral domains under consideration, the relationships between individual social axiom dimensions and each set of the behavior-specific attitudes, subjective norms, PBCs, and behavioral intentions were predicted. More specifically, the attitude, subjective norm, PBC, and behavioral intention related to studying everyday were expected to be positively associated with reward for application because the belief that positive results can be achieved through persistent effort provides positive expectations for students to enhance their engagement in learning for a better result. However, the attitude, subjective norm, PBC, and intention related to studying everyday should be negatively associated with social complexity, as the belief that the possible presence of multiple factors contributing to one's expected outcome may devalue the efficacy of one's personal effort. In other words, student may think that it is unnecessary, or even futile or a waste of time, for them to invest time and effort in studying as there are other possible factors, which are external and less controllable, that would determine their academic performance, such as teachers' favoritism or luck (cf. Weiner's theory of attribution; Weiner, 2004).

Next, the attitude, subjective norm, PBC, and behavioral intention related to donating to street children were predicted to be associated positively with religiosity, not only because of the assumption that the act of donating is in agreement with the teaching of most, if not all, religions—and in fact are part of these religious practices, but also because the act of donating could be construed by the individuals to potentially lead to positive personal and social outcomes, that is, the alleviation of the adversity of the unfortunate and blessings for the charitable actor. The donating-related beliefs were also hypothesized to be positively associated with fate control as the donators may predict that their donation to street children would somehow improve the lives of these children. That is, while individuals may believe that the adversity experienced by the street children as fated or "God-determined," they may also believe that they can do their bit by donating some money to alleviate the children's adversity. On the other hand, the attitude, subjective norm, PBC, and intention related to donating to street children were predicted to be negatively related to social cynicism. It is necessary to note that, seemingly contradictory to the belief that donating will help the poor (i.e., the hypothesized positive relationship between fate control and donating-related beliefs), there is also a prevailing belief among many Indonesians that giving money to street children will only make them lazy and hesitate to find a proper job. Thus, the distrust and negative view of human nature underlying the social cynicism belief may discourage one from donating money to street children.

Finally, the attitude, subjective norm, PBC, and behavioral intention related to praying everyday were predicted to be positively related to religiosity, not only

because of the fact that the act of praying is part of one's religious practices, regardless of one's religious affiliation, but also because of the pragmatic value of the act as assessed by the prayer. That is, one may think that praying will bring positive and desired personal and social outcomes to one's life. The praying-related beliefs were also hypothesized to be positively associated with reward for application as the belief that positive results can be achieved by applying persistent effort is consistent with what most existing religions teaches their adherents that praying will result in what the prayers ask for.

In summary, we predicted that the studying-related beliefs would be positively related to reward for application and negatively to social complexity; the donating-relating beliefs would be positively related to religiosity and fate control, and negatively to social cynicism; and the praying-related beliefs would be positively related to religiosity and reward for application.

As was discussed earlier, the role of social axioms as a source of information that helps individuals to decide to perform or not to perform a particular behavior (i.e., a behavioral intention) is likely to be mediated by the TPB's three proximal antecedents of behavioral intentions. This is probably so because social axioms are domain-general and context-free beliefs, so their influences on the more specific behavioral intentions, and perhaps also on the actual behaviors, are somewhat weaker than the influences of the behavior-specific attitudes, subjective norms, and PBCs. On this basis, two research questions were addressed: (1) do social axioms explain a significant amount of variance in each component of the TPB (viz., attitude, subjective norm, PBC, and behavioral intention) and (2) are the relationships between social axioms and an intention to perform a particular behavior fully or partially mediated by the behavior-specific attitude, subjective norm, and PBC?

Method

Participants

A total of 712 Indonesian undergraduates majoring in psychology were recruited from a large private university in Bandung, West Java. Their average age was 19.90 ($SD = 2.01$), of whom the majority was female (570; 80.1%). According to their year of study, 182 (25.56%) of them were freshmen, 160 (22.47%) sophomores, 202 (28.37%) juniors, and 168 (23.60%) seniors. They consisted of 261 (36.66%) Indonesians of Chinese descent and 451 (63.34%) Indonesians of various native ethnicities (e.g., Javanese, Sundanese, and Batak). In terms of religion, there were 317 (44.52%) Protestants, 132 Catholics (18.54%), 233 (32.72%) Muslims, 25 (3.51%) Buddhists, 3 (0.42%) Hindus; two participants did not indicate their religion.

The sample selected to address our research questions pertaining to the relationships between social axioms and the TPB components was a subsample ($N = 290$) of the whole sample described above. Their average age was 18.70 ($SD = 1.44$) and the majority was female (238; 82.1%). They consisted of 114 (39.3%) Indonesians

of Chinese descent and 176 (60.7%) Indonesians of various native ethnicities. In terms of religion, there were 113 (39%) Protestants, 63 (21.7%) Catholics, 99 (34.14%) Muslims, 14 (4.83%) Buddhists, and 1 (0.34%) Hindu.

Measures

Social Axioms The BI version of the Social Axioms Survey (BI-SAS) was developed and translated from the English version of the SAS. The BI-SAS translation was carried out through a committee approach, in which the first author and an Indonesian psychologist, who is also a professional English–BI translator, first read and tried to understand the theorizing and conceptualization of the social axioms model and its five dimensions proposed by Leung et al. (2002). The translation was carried out with the aim of capturing the essential meaning that each item conveys, rather than literally translating every single word in each item. This procedure ensured the content validity of each item. For the purpose of the study reported in this chapter, we used the 39 social axiom items that had been analyzed and reported by Leung and Bond (2004) in their validation study with university student and adult pancultural samples. This allowed a statistical test to see how well our Indonesian data fitted the factorial structure found by Leung and Bond. In the 39-item version of the SAS, social cynicism consisted of 11 items, social complexity of six items, reward for application of nine items, religiosity of seven items, and fate control of six items. The internal consistency (Cronbach alpha) for the BI-SAS subscales based on the sample used in the present study is reported in the Analyses and Results section.

Development of the TPB questionnaires was carried out by following the procedure recommended by Ajzen and other TPB researchers (Ajzen & Madden, 1986; Francis et al., 2004; see also Ajzen, 2007). The three sets of the TPB measures were constructed for the purpose of this study, each of which is described below.

Studying-Related Beliefs For the studying-related belief measures, four items measured behavioral intention (e.g., “I intend to study regularly every day”; “I am willing to study regularly every day”; $\alpha = .76$) on a 7-point Likert-type scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*) or from 1 (*definitely false*) to 7 (*definitely true*). Attitude toward studying was measured by four items using the following anchor sentence, “*To me, studying regularly every day is _____*”, and a 7-point semantic differential scale, with the following bipolar adjectives: *necessary–unnecessary*, *good–bad*, *useful–worthless*, and *pleasant–unpleasant* ($\alpha = .75$), was provided. Subjective norm was measured by two items (viz., “*People who are important to me want me to study regularly every day*” and “*I feel obliged to study regularly every day*”; $\alpha = .61$) on a 7-point Likert-type scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*) or from 1 (*definitely false*) to 7 (*definitely true*). PBC was measured by two items (viz., “*If I wanted to I could study regularly every day*” and “*I have complete control over whether or not I study regularly*”

every day”; $\alpha = .51$) on a 7-point Likert-type scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*) or from 1 (*no control*) to 7 (*complete control*).

Donating-Related Beliefs For the donating-related belief measures, four items measured behavioral intention (e.g., “*I intend to give some money to street children*”; “*I am willing to give some money to street children*”; $\alpha = .88$) on a 7-point Likert-type scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*) or from 1 (*definitely false*) to 7 (*definitely true*). Attitude toward donating was measured by four items using the following anchor sentence, “*To me, giving some money to street children is _____*”, and a 7-point semantic differential scale, with the following bipolar adjectives: *bad–good*, *harmful–beneficial*, *useful–worthless*, and *pleasant–unpleasant* ($\alpha = .82$), was provided. Subjective norm was measured by four items (e.g., “*It is expected of me that I give some money to street children*”; “*People whom I respect think that _____ give some money to street children*”; $\alpha = .73$) on 7-point Likert type scales ranging from 1 (*strongly disagree*) to 7 (*strongly agree*) or from 1 (*I should*) to 7 (*I should not*). Four items measured PBC (e.g., “*If I wanted to I could give some money to street children*”; “*I feel in complete control over whether or not I give some money to street children*”; $\alpha = .67$) on a 7-point Likert-type scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*) or from 1 (*no control*) to 7 (*complete control*).

Praying-Related Beliefs For the praying-related belief measures, four items measured behavioral intention (e.g., “*I intend to pray regularly every day*”; “*I plan to pray regularly every day*”; $\alpha = .78$) on a 7-point Likert type scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*) or from 1 (*definitely false*) to 7 (*definitely true*). Attitude toward praying was measured by four items using the following anchor sentence, “*To me, praying regularly every day is _____*”, and a 7-point semantic differential scale, with the following bipolar adjectives: *good–bad*, *convenient–troublesome*, *calming–upsetting*, and *useful–worthless* ($\alpha = .78$), was provided. Subjective norm was measured by four items (e.g., “*People who are important to me want me to pray regularly every day*”; “*I feel I should pray regularly every day*”; $\alpha = .70$) on a 7-point Likert-type scales ranging from 1 (*strongly disagree*) to 7 (*strongly agree*) or from 1 (*definitely false*) to 7 (*definitely true*). And lastly, four items measured PBC (e.g., “*If I wanted to, I could pray regularly every day*”; “*I feel in complete control over whether or not I pray regularly every day*”; $\alpha = .53$) on a 7-point Likert-type scale ranging from 1 (*strongly agree*) to 7 (*strongly disagree*) or from 1 (*no control*) to 7 (*complete control*). The TPB components related measures were also given to the participants in BI.

Procedure

A set of questionnaires consisting of the BI-SAS and another set of measures (for the purpose of other studies related to social axioms) were distributed to the participants and collected in class on a self-report basis. All participants were

instructed to indicate their age, gender, ethnicity, religion, and year and semester of study. In order to encourage the participants to give their genuine responses, it was emphasized that all responses were completely anonymous and there were no right or wrong answers to any of the questions. Participants were thanked for their participation. It took around 30 to 40 min for the participants to complete the questionnaire.

Analyses and Results

Validation of the BI-SAS

Confirmatory Factor Analysis The first aim of our study was to examine the psychometric properties of the refined BI-SAS. To this end, we examined the within-construct validity of the BI-SAS by evaluating the statistical fit between our sample's responses to the BI-SAS ($N = 712$) and the five-factor model of social axioms found and reported by Leung and Bond (2004), and by assessing the BI-SAS subscales' internal consistency, correlations, item loadings, as well as basic descriptive statistics (means and standard deviations). Using AMOS 7.0, we conducted a confirmatory factor analysis (CFA), in which the five dimensions of social axioms were treated as interrelated latent variables and their respective a priori items were treated as observed variables. We did not apply the technique of item parceling, which has typically been done in performing CFA to validate the factorial structure model of social axioms to reduce model complexity, because of the many items involved (see, e.g., Leung et al., 2002; Leung et al., 2007), because our aim was to examine the adequacy of each of the 39 BI-SAS items in contributing to its respective a priori dimension of social axioms. The model fit was evaluated by the ratio between chi-square and degree of freedom (χ^2/df), the goodness-of-fit index (GFI), the root-mean-square error of approximation (RMSEA), and the standardized root-mean-square (SRMR). Values of χ^2/df that is approaching or below 5.00 (Marsh & Hocevar, 1985), GFI above .90 (Tanaka & Huba, 1989), RMSEA below .08 (Browne & Cudeck, 1993), and SRMR at .05 or below (Hu & Bentler, 1995) indicate good fit.

The CFA showed that the data fitted the measurement model built upon Leung and Bond's (2004) five-factor model of social axiom reasonably well: $\chi^2/df = 2.73$, $p < .001$; GFI = .87; RMSEA = .05; and SRMR = .06. Given a relatively large number of items or observed variables involved in the model, this result was considered good as the model accounted for 87% of the variances and covariances in our Indonesian data. All of the latent variables' variances, except for social complexity, were significant at $p < .01$. All items, except for the six social complexity items, loaded onto their respective latent variables significantly at $p < .001$.

Table 1 displays the factor loadings of the 39 BI-SAS items and the variances of the five social axiom dimensions. The median of factor loadings for the 11 social cynicism items was 0.40 ($\alpha = .69$), with item *Cyn48*, "Kind-hearted people are

Table 1 The 39 BI-SAS items' CFA factor loadings and their means and standard deviations ($N = 712$)

Item	Factor loading	Mean	SD
<i>Social Cynicism</i> ($\alpha = .69$)	0.07^y	2.88	0.45
<i>Cyn53</i> —People deeply in love are usually blind	0.25*	3.65	0.98
<i>Cyn44</i> —People will stop working hard after they secure a comfortable life	0.31*	2.76	0.99
<i>Cyn16</i> —Young people are impulsive and unreliable	0.33*	1.91	0.79
<i>Cyn17</i> —It is rare to see a happy ending in real life	0.37*	2.16	0.84
<i>Cyn45</i> —The various social institutions in society are biased toward the rich	0.39*	3.44	0.93
<i>Cyn55</i> —To care about societal affairs only brings trouble for yourself	0.40*	2.11	0.76
<i>Cyn28</i> —Old people are usually stubborn and biased	0.41*	3.18	0.97
<i>Cyn41</i> —Power and status makes people arrogant	0.42*	3.54	0.92
<i>Cyn43</i> —Powerful people tend to exploit others	0.45*	3.57	0.87
<i>Cyn54</i> —Kind-hearted people usually suffer losses	0.59*	2.50	0.93
<i>Cyn48</i> —Kind-hearted people are easily bullied	0.61*	2.81	1.04
<i>Social Complexity</i> ($\alpha = .35$)	0.00^y	4.03	0.32
<i>Com25</i> —There is usually only one way to solve a problem	0.06	3.84	0.80
<i>Com39</i> —Current losses are not necessarily bad for one's long-term future	0.13	3.78	0.87
<i>Com6</i> —People may have opposite behavior on different occasions	0.37	4.11	0.49
<i>Com4</i> —Human behavior changes with the social context	0.37	4.07	0.68
<i>Com23</i> —One has to deal with matters according to the specific circumstances	0.39	4.23	0.56
<i>Com31</i> —One's behaviors may be contrary to his or her true feelings	0.40	4.17	0.51
<i>Reward for Application</i> ($\alpha = .67$)	0.08^y	4.24	0.34
<i>Rew2</i> —Caution helps avoid mistakes	0.22*	4.21	0.58
<i>Rew13</i> —One who does not know how to plan his or her future will eventually fail	0.24*	3.67	0.95
<i>Rew24</i> —Competition brings about progress	0.33*	3.97	0.65
<i>Rew15</i> —Knowledge is necessary for success	0.37	4.23	0.65
<i>Rew21</i> —Adversity can be overcome by effort	0.52*	4.43	0.52
<i>Rew34</i> —Failure is the beginning of success	0.52*	4.07	0.74
<i>Rew57</i> —Hard working people will achieve more in the end	0.53*	4.39	0.63
<i>Rew22</i> —Every problem has a solution	0.55*	4.60	0.52
<i>Rew33</i> —One will succeed if he/she really tries	0.58*	4.59	0.52
<i>Religiosity</i> ($\alpha = .67$)	0.20^y	4.06	0.43
<i>Rel9</i> —Religious people are more likely to maintain moral standards	0.31*	3.86	0.70
<i>Rel12</i> —There is a supreme being controlling the universe	0.43*	4.71	0.55
<i>Rel52</i> —Beliefs in a religion makes people good citizens	0.44*	3.54	1.02
<i>Rel37</i> —Religious beliefs lead to unscientific thinking	0.44*	3.66	0.92
<i>Rel5</i> —Religion makes people escape from reality	0.53*	4.01	0.86
<i>Rel1</i> —Religious faith contributes to good mental health	0.54*	4.25	0.66
<i>Rel46</i> —Beliefs in a religion helps one understand the meaning of life	0.63*	4.40	0.61

(continued)

Table 1 (continued)

Item	Factor loading	Mean	SD
<i>Fate Control</i> ($\alpha = .62$)	0.08 $^{\gamma}$	2.82	0.58
<i>Fat3</i> —Good luck follows if one survives a disaster	0.30 $^{\circ}$	3.23	0.94
<i>Fat8</i> —Fate determines one's successes and failures	0.41 $^{\circ}$	2.65	1.06
<i>Fat32</i> —There are certain ways to help us improve our luck and avoid unlucky things	0.45 $^{\circ}$	3.30	0.97
<i>Fat19</i> —Individual characteristics, such as appearance and birthday, affect one's fate	0.50 $^{\circ}$	2.22	0.97
<i>Fat26</i> —Most disasters can be predicted	0.54 $^{\circ}$	2.53	0.96
<i>Fat56</i> —There are many ways for people to predict what will happen in the future	0.54 $^{\circ}$	3.06	1.01

Note: $^{\circ}p < .001$; $^{\gamma}$ = variance of the dimensions resulting from confirmatory factor analysis; they are all significant except that of social complexity; *Rew* = reward for application; *Rel* = religiosity; *Cyn* = social cynicism; *Fat* = fate control; *Com* = social complexity.

easily bullied," having the highest loading (0.48) and item *Cyn53*, "People deeply in love are usually blind," having the lowest loading (0.25). The median of factor loadings for the seven religiosity items was 0.44 ($\alpha = .67$), with item *Rel46*, "Beliefs in a religion helps one understand the meaning of life," having the highest loading (0.63) and item *Rel9*, "Religious people are more likely to maintain moral standards," having the lowest loading (0.31). The median of factor loadings for the six fate control items was 0.48 ($\alpha = .62$), with item *Fat26*, "Most disasters can be predicted," and item *Fat56*, "There are many ways for people to predict what will happen in the future," having the highest loadings (0.54), and item *Fat3*, "Good luck follows if one survives a disaster," having the lowest loading (0.30). The median of factor loadings for the nine reward for application items was 0.52 ($\alpha = .67$), with item *Rew33*, "One will succeed if he/she really tries," having the highest loading (0.58), and item *Rew2*, "Caution helps avoid mistakes," having the lowest loading (0.22).

However, as mentioned above, none of the six social complexity items loaded significantly onto its latent variable. The median of factor loadings for these six items was 0.37 ($\alpha = .35$), with item *Com23*, "One has to deal with matters according to the specific circumstances," having the highest loading (0.39) and item *Com25*, "There is usually only one way to solve a problem," having the lowest loading (0.06). This finding indicated that the dimension of social complexity and its items were less robust relative to the other dimensions of social axiom and their measuring items.

As can be seen in Table 1, none of the 39 items showed a negative factor loading onto its a priori latent variable. Table 1 also displays the average scores (and *SDs*) of the five dimensions of social axiom based on the whole sample, which indicated that our sample was relatively high on reward for application (mean = 4.24), religiosity (mean = 4.06), and social complexity (mean = 4.03), and relatively low on social cynicism (mean = 2.88) and fate control (mean = 2.82). This profile was highly similar to that of the Indonesian sample in Leung and Bond's (2004) study,

as reviewed in our Introduction. We also noted that Cronbach alphas for the five social axiom subscales based upon our subsample data set ($N = 290$) were comparable to that with the whole sample ($N = 712$): reward for application (9 items; $\alpha = .71$), religiosity (7 items; $\alpha = .64$), social cynicism (11 items; $\alpha = .67$), fate control (6 items; $\alpha = .63$), and social complexity (6 items; $\alpha = .30$).

Correlations Among the Dimensions of Social Axiom As can be seen in Table 2, for both the whole sample and the subsample, social complexity was positively associated with reward for application; and religiosity was positively associated with reward for application. These relationships were similar to those found in other cultures (see, e.g., Bernardo, 2004; Safdar et al., 2006; Singelis et al., 2003). Interestingly, for both of our samples, social cynicism was negatively associated with religiosity, suggesting that those higher on religiosity will be lower on negative, pessimistic, and cynical views of people and social events.

Table 2 also shows that many of the direction of the correlations (i.e., positive or negative) found between social axioms and particular behavioral domain-related beliefs were consistent with our hypothesized relationships. For example, reward for application was positively related to studying-related attitude ($r = .31, p < .001$), subjective norm ($r = .12, p < .05$), PBC ($r = .20, p < .01$), and behavioral intention ($r = .23, p < .001$); religiosity was positively related to praying-related attitude ($r = .47, p < .001$), subjective norm ($r = .34, p < .001$), PBC ($r = .24, p < .001$), and behavioral intention ($r = .40, p < .001$). This was evidence for the between-construct validity of the BI-SAS and its subscales. Table 2 also shows that, as expected, the TPB-related beliefs within each particular behavioral domain were significantly interrelated.

Social Axioms and the Theory of Planned Behavior

To address the hypotheses and research questions pertaining to the relationships between the dimensions of social axiom and the TPB components, path modeling analyses were performed. The path model for each domain of behavior was constructed in three steps, using an application of multiple regression analyses. First, to examine if social axioms contributed a significant amount of the variance in each of the three proximal predictors of behavioral intention (i.e., attitude, subjective norm, and PBC), each of the latter was separately regressed on the five social axiom dimensions. Second, to examine if social axioms exerted a direct significant influence on behavioral intention, the latter was regressed on the five social axiom dimensions. A simultaneous multiple regression analysis was performed in these first and second steps to examine the relative contributions of the five social axiom dimensions for a given dependent variable. In the third step, to examine whether the effect of social axioms as a distal predictor of behavioral intention remained significant after taking into account the three TPB proximal predictors of behavioral intention, a hierarchical regression analysis was performed with the three

Table 2 Correlations among social axiom dimensions and the theory of planned behavior (TPB) components

No.	<i>Social axioms</i>	Variable									
		1	2	3	4	5	6	7	8	9	
1.	Social cynicism		-0.01	-0.05	-0.24***	0.14***					
2.	Social complexity	0.01	-	0.25***	0.06	0.03					
3.	Reward for application	-0.01	0.29***	-	0.32***	0.09*					
4.	Religiosity	-0.25***	0.07	0.29***	-	-0.05					
5.	Fate control	0.09	0.01	0.06	-0.13*	-					
	<i>Studying-related beliefs</i>	1	2	3	4	5	6	7	8	9	
6.	Attitude	-0.12*	-0.02	0.31***	0.29***	-0.01	-				
7.	Subjective norm	0.03	-0.11	0.12*	0.14*	0.01	0.55***	-			
8.	Perceived behavioral control	-0.11	0.02	0.20**	0.23***	0.01	0.48***	0.33***	-		
9.	Behavioral intention	-0.11	-0.05	0.23***	0.27***	0.12*	0.69***	0.62***	0.44***	-	
	<i>Donating-related beliefs</i>	1	2	3	4	5	10	11	12	13	
10.	Attitude	-0.13*	-0.06	0.11	0.17**	0.10	-				
11.	Subjective norm	-0.05	-0.04	0.16**	0.09	0.20**	0.66***	-			
12.	Perceived behavioral control	-0.10	0.05	0.10	0.15**	0.05	0.70***	0.45***	-		
13.	Behavioral intention	-0.02	-0.08	0.10	0.10	0.15*	0.79***	0.69***	0.64***	-	
	<i>Praying-related beliefs</i>	1	2	3	4	5	14	15	16	17	
14.	Attitude	-0.07	-0.00	0.26***	0.47***	0.04	-				
15.	Subjective norm	-0.08	0.05	0.18**	0.34***	0.02	0.68***	-			
16.	Perceived behavioral control	-0.02	0.13*	0.26***	0.24***	0.04	0.59***	0.56***	-		
17.	Behavioral intention	-0.08	0.09	0.22***	0.40***	0.06	0.74***	0.70***	0.59***	-	

Note: * $p < .05$; ** $p < .01$; *** $p < .001$; for interrelationships among the five dimensions of social axiom, correlation coefficients above the diagonal are based on the overall sample ($N = 712$), whereas correlation coefficients below the diagonal as well as the correlations coefficients among social axioms and the TPB components are based on the subsample ($N = 290$).

TPB predictors entered in the first step of the analysis and the five social axiom dimensions in the second step. Results are organized according to the behavioral domains under consideration.

Path Model for the Intention to Study When each of the three proximal predictors of the intention to study was regressed on the social axioms model, three out of the five social axiom dimensions, namely reward for application, religiosity, and social complexity, were found to be significant predictors. Specifically, reward for application and religiosity were positively related to the studying-related attitude ($\beta = .29, p < .001$ and $\beta = .19, p < .01$, respectively) and PBC ($\beta = .16, p < .05$ and $\beta = .17, p < .01$, respectively). Whereas reward for application and religiosity (both β s = $.13, p < .05$) were positively related, social complexity ($\beta = -.15, p < .05$) was negatively related to studying-related subjective norm. When the intention to study regularly was regressed on the social axioms model, all social axiom dimensions, except social cynicism, were found to be significant predictors ($R^2 = .14, p < .001$). Reward for application, religiosity, and fate control ($\beta = .19, p < .01$, $\beta = .23, p < .001$, and $\beta = .14, p < .05$, respectively) were positively related, whereas social complexity ($\beta = -.12, p < .05$) was negatively related to the intention to study.

The first step of the hierarchical regression analysis, as expected, demonstrated that the studying-related attitude ($\beta = .46, p < .001$), subjective norm ($\beta = .32, p < .001$), and perceived behavioral control ($\beta = .11, p < .05$) were significant predictors of the intention to study ($R^2 = .57, p < .001$). However, when the studying-related beliefs were taken into account, reward for application and social complexity were no longer significant predictors of the intention to study regularly ($\beta = .01, ns$, and $\beta = -.02, ns$, respectively), and the path coefficients from religiosity and fate control to the intention to study decreased, although they remained significant ($\beta = .09, p < .05$ and $\beta = .13, p < .01$, respectively). These findings indicate that the three proximal predictors of behavioral intention, singly or in concert, fully mediated the relationships between the two social axiom dimensions, reward for application and social complexity, with the intention to study, but only partially mediated the relationship between religiosity and the intention to study (fate control exerted only a direct effect on intention to study).

The full model explained 59% of the total variance in the intention to study, and social axioms, in particular, exerted a significant predictive power over and above the studying-related beliefs ($\Delta R^2 = .02, \Delta F[5] = 3.32, p < .01$). Figure 1 presents all significant paths of the fully estimated models of the intention to study. Standardized beta coefficients are reported and thus the path coefficients reported in Fig. 1 illustrate the strength of each explanatory variable controlling for all other explanatory variables in the model.

Path Model for the Intention to Donate When each of the three proximal predictors of the intention to donate was regressed on the social axioms model, three out of the five social axiom dimensions, namely religiosity, reward for application, and fate control, were found to be significant predictors. Specifically, religiosity and fate control ($\beta = .15, p < .05$ and $\beta = .13, p < .05$, respectively) were positively related to the attitude toward donating. Reward for application and fate control ($\beta = .15,$

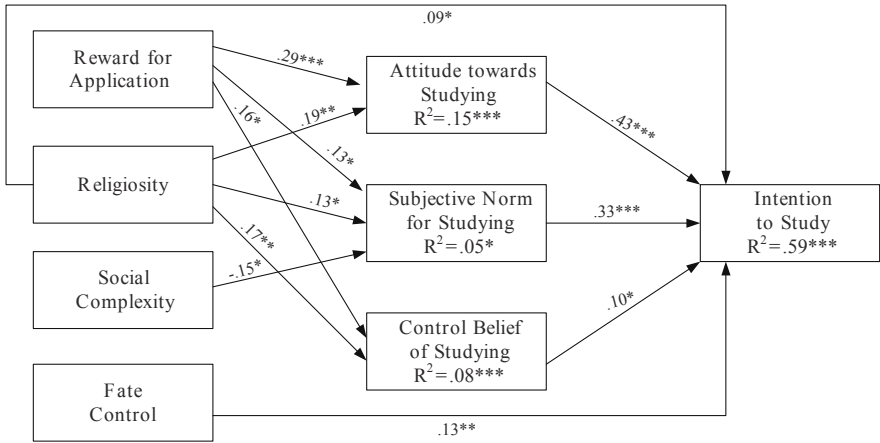


Fig. 1 A full path model predicting the intention to study

$p < .05$ and $\beta = .20$, $p < .001$, respectively) were positively related to the donating-related subjective norm. Religiosity ($\beta = .13$, $p < .05$) was also related to PBC in donating. When the intention to donate was regressed on the social axioms model, fate control ($\beta = .16$, $p < .01$) was found to exert a significant positive influence on the intention to donate, whereas social complexity ($\beta = -.12$, $p < .05$) exerted a significant negative influence on the intention to donate ($R^2 = .06$, $p < .01$).

As predicted, the first step of the hierarchical regression analysis showed that the donating-related attitude ($\beta = .48$, $p < .001$), subjective norm ($\beta = .29$, $p < .001$), and perceived behavioral control ($\beta = .18$, $p < .001$) were significant predictors of the intention to donate ($R^2 = .69$, $p < .001$). With the involvement of the donating-related beliefs in the model, fate control and social complexity ($\beta = .03$, ns ; $\beta = -.05$, ns , respectively) were no longer significantly related to the intention to donate. These findings demonstrated that the relationship between fate control and the intention to donate was fully mediated by the three proximal predictors of behavioral intention. Social complexity was subsequently dropped in the full model (see Fig. 2), because it did not exert any significant effect on the donating-related beliefs. Contrary to our expectation, social cynicism was not found to predict donating-related beliefs.

The full model explained 71% of the total variance in the intention to donate to street children. In this model, however, social axioms did not contribute a significant amount of the variance in the intention to donate over and above the three donating-related beliefs ($\Delta R^2 = .001$, $\Delta F[5] = 1.63$, $p = .15$). Figure 2 presents all significant paths of the fully estimated models of the intention to donate.

Path Model for the Intention to Pray When each of the three proximal predictors of the intention to pray was regressed on the social axioms model, as expected, religiosity and reward for application were found to be positively related to the praying-related attitude ($\beta = .45$, $p < .001$ and $\beta = .15$, $p < .01$, respectively) and PBC ($\beta = .20$, $p < .01$ and $\beta = .19$, $p < .01$, respectively). Religiosity ($\beta = .32$,

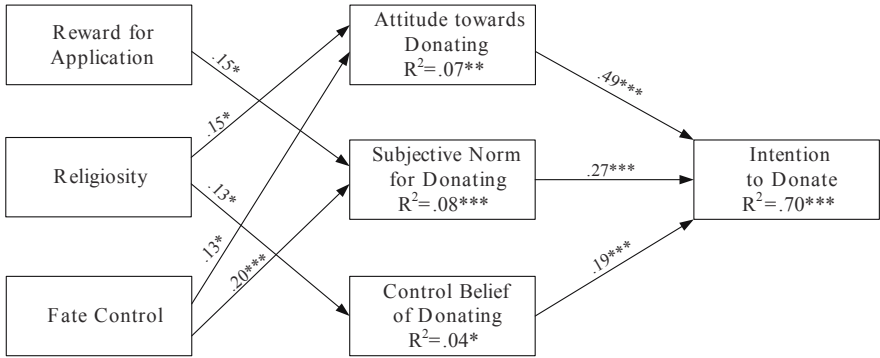


Fig. 2 A full path model predicting the intention to donate

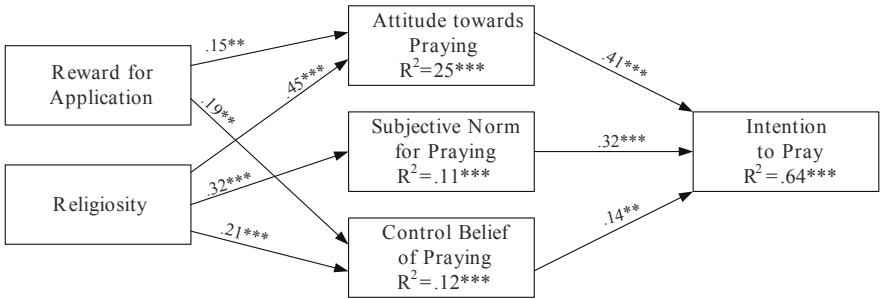


Fig. 3 A full path model predicting the intention to pray

$p < .001$) was also positively related to the praying-related subjective norm. When the intention to pray was regressed on the social axioms model, religiosity and fate control ($\beta = .39, p < .001$ and $\beta = .11, p < .05$, respectively) exerted significant positive influences on the intention to pray ($R^2 = .19, p < .001$).

The first step of the hierarchical regression analysis showed that, as expected, the praying-related attitude ($\beta = .43, p < .001$), subjective norm ($\beta = .32, p < .001$), and perceived behavioral control ($\beta = .15, p < .01$) were significant predictors of the intention to pray ($R^2 = .63, p < .001$). When the praying-related beliefs were taken into account in the model, both religiosity and fate control ($\beta = .07, ns$ and $\beta = .05, ns$, respectively) were no longer significantly related to intention to pray. This result suggested that the relationships between religiosity and the intention to pray were fully mediated by the praying-related attitude, subjective norm, and perceived behavioral control. Fate control was subsequently dropped in the full model (see Fig. 3), because it did not exert any significant influence on the praying-related beliefs.

The full model explained 64% of the total variance in the intention to pray. In this model, however, social axioms did not add a significant predictive power for the behavioral intention to pray over and above the praying-related beliefs ($\Delta R^2 = .01, \Delta F[5] = 1.41, p = .22$). Figure 3 shows all significant paths of the fully estimated model of the intention to pray.

Discussion

Validation of the BI-SAS

The first aim of our study is to report the validity of the BI-SAS with a recent data set. Using confirmatory factor analysis (CFA), we examined the within-construct validity of the BI-SAS. The CFA result indicated that four out of the five dimensions of social axioms, namely reward for application, religiosity, social cynicism, and fate control, were robust. This was evident in their significant variances explained by their respective a priori indicators or items. However, the evidence for the presence of the social complexity dimension was not as robust as that of the other four dimensions, as the variance of this dimension was not statistically significant.

A more fine-grained explanation of these results can be obtained from the item-level findings. Unlike items measuring the dimensions of reward for application (9 items), religiosity (7 items), social cynicism (11 items), and fate control (6 items), which were all found to have significant positive loadings on their respective dimensions, the six social complexity items did not load significantly onto their hypothesized dimension. Thus, it is not surprising why we found that, whereas the internal consistency for the four social axiom subscales was generally acceptable ($\alpha \geq .62$)—which was adequate enough for researchers to use the scales in further analyses, the internal consistency of the social complexity subscale was low with α at around .30s (i.e., $\alpha = .35$ and $\alpha = .30$ for the whole sample and the subsample, respectively). It must be noted that the low reliability for this dimension was also found in studies with other cultural groups (see Leung & Bond, 2004). This calls for studies identifying new belief items that can improve the reliability of this dimension. The low alpha notwithstanding, the social complexity scale showed a conceptually meaningful relationship with a studying-related belief, which will be elaborated below.

We also found that our sample was relatively high on reward for application, religiosity, and social complexity, and relatively lower on social cynicism and fate control. This profile was similar to the profile of the Indonesian university student sample in Leung and Bond's (2004) study, suggesting the adequacy of the BI-SAS items in measuring the social beliefs system of the Indonesians university students. The between-construct validity of the BI-SAS subscales was also evident in the findings that their relationships with external variables were found, in general, as hypothesized.

Social Axioms as Distal Predictors of Behavioral Intention

The second study demonstrated that social axioms were salient predictors of behavior-specific attitudes, subjective norms, and PBCs, as well as behavioral intentions in various domains of behavior (viz., studying, donating, and praying-related behaviors).

That is, social axioms explained a significant amount of variance in each of the TPB's domain-specific components examined in this study. Further, almost all of the hypothesized relationships between the dimensions of social axiom and the behavioral domain-specific beliefs were supported.

As predicted, studying-related attitude, subjective norm, PBC, and intention were related to reward for application (+) and social complexity (-). Unexpectedly, we found an interesting result showing that fate control was positively related the intention to study. This seems to suggest that the belief that certain outcomes in life, although somehow predetermined, are modifiable and improvable through individuals' proactive involvement and effort. This belief provides positive expectations and encouragement for students to engage in studying to improve their academic-related fate and outcomes. This is in alignment with a Chinese saying popular in Hong Kong that knowledge can change one's fate (see, e.g., Li, 2001; K. Leung, personal communication, November 2007). Further, the finding also indicates that the construct of fate control is not exactly the same as external locus of control because, whereas external locus of control entails submitting to external forces—typically beyond one's control, fate control involves one's proactive improvement and effort and not merely passive submission and acceptance of one's fate (cf. Weiner's, 2004, theory of attribution).

We also found that religiosity exerted a significant positive effect on each of the three TPB's proximal predictors of the intention to study as well as on the intention to study itself. What is even more interesting, the effect of religiosity on the intention to study remained significant after controlling for the three TPB key predictors. This finding suggests that religiosity-related beliefs play an influential role in the students' intention to study regularly everyday. While this finding is supportive to the recurring argument that religion plays a major role in the lives of the Indonesians in general, this also provides support to the current trend of understanding the relationship between religious beliefs and academic motivation (Maehr & Karabenick, 2005). Future studies are needed to disentangle which religious beliefs exactly influence student academic motivation, and how students with different religious affiliations differ in their academic motivation.

While the donating-related attitude, subjective norm, PBC, and behavioral intention were related to religiosity (+) and fate control (+), which provided support to our hypotheses, they were also, unexpectedly, related to reward for application (+). The relationship between reward for application and the donating-related subjective norm may be due to the content of one of its belief items, "Adversity can be overcome by effort," which can be interpreted that the effort or attempt one exerts to overcome the adversity of others, such as by donating money to street children, will be fruitful when it is done carefully, such as, perhaps, by selecting which children one wants to donate to. Finally, as hypothesized, the praying-related attitude, subjective norm, PBC, and behavioral intention were related to religiosity (+) and reward for application (+).

On the whole, our findings have demonstrated that the role of social axioms as domain-general and context-free beliefs in predicting more specific and context-bound attitudes, subjective norms, PBCs, and behavioral intentions is significant

and extensive. In each of the behavior-specific attitudes, subjective norms, PBCs, and behavioral intentions, the social axiom dimensions, collectively, contributed a significant amount of variance. These general beliefs, in particular reward for application, religiosity, fate control, and social complexity, also added significant predictive power over and above that exerted by the TPB's key proximal predictors in the model of the intention to study.

We believe that these findings have added fundamental theoretical implications to both the social axioms model and the TPB. For the social axioms model, the findings are evidence for the practical value of social axioms in understanding psychological functioning and the processes leading to an individual's behavioral intention (and perhaps to actual behavior as well), supporting the functionalist notion of belief (Kruglanski, 1989). In line with the mission of the TPB to understand the social-cognitive underpinnings of individuals' social behaviors, we took one step back further by examining the antecedents of attitudes, subjective norms, and PBCs. This is the first study that has combined social axioms and the three TPB proximal predictors to predict the intentions to perform behaviors.

In a broader theoretical sense, these findings have important implications for our effort toward building an expectancy-value framework in understanding human behavior (Vroom, 1964). In future studies, it will be interesting to assess the role played by social axioms in their interaction with values in predicting the execution of a particular behavior—both directly or mediated through their effects on the behavior-specific attitude, subjective norm, PBC, and behavioral intention.

Further, it has been demonstrated that people in different cultures endorse social axioms to different degrees (Leung & Bond, 2004). Thus, we also call for cross-cultural studies that integrate social axioms and values into the TPB framework to examine whether or not individuals' social axioms influence their attitudes, subjective norms, PBCs, behavioral intentions, and actual behaviors in a cross-culturally similar fashion.

Call for Future Studies on Social Axioms in Indonesia

To conclude, we believe that our study has provided evidence for the validity and reliability of the BI-SAS. While the social complexity subscale and items need to be used with caution, we believe that, in general, the BI-SAS can be used with confidence to measure social axiom beliefs in Indonesia. Therefore, we call for other studies not only to use the BI-SAS but also to search for emic or culture-specific social beliefs that may be complementary to those in the BI-SAS in guiding behaviors among the Indonesians. The fact that the population of Indonesia is so diverse in terms of ethnicity, religion, language, customs, and other cultural artifacts, including folktales and proverbs, provides an excellent avenue for researchers to study social beliefs in the country.

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Cynicism in Love and in Politics

Paweł Boski, Monika Biłas-Henne, and Joanna Więckowska

Abstract Following Leung and Bond, deception and its recognition are the key reasons for the existence of cynical beliefs among actors and observers of social life. While this mechanism is almost inherent in politics and power relations, sociobiology postulates its role also in intimate life, as part of mate selection strategies played by individuals of both sexes.

Our first study relates social axioms to love styles in a Polish–Spanish cross-cultural comparison. Based on Social Axioms Survey (SAS), this work attempted to test some of its methodological variations, such as: generality vs. domain specificity; individual vs. shared beliefs; and evenness vs. bias in gender targeting. As expected, there was a link between social cynicism and pragma (in Hendrick and Hendrick’s conceptual scheme of love styles). This effect was moderated by an index of shared beliefs such that social cynicism led to pragmatic views on love, particularly in those participants who maintained that cynical beliefs were widespread in their society at large. Central to our second study is the hypothesis that social cynicism in political life is the consequence of deceptions committed by authorities, i.e., the discrepancy between propaganda and experienced reality. Our research involved the history of Polish–Russian/Soviet relations during the last 50 years, appraised by citizens of both countries. As expected, for periods when the propaganda exulted with most positive terms, the experienced versions of bilateral relations were reaching the lowest ebb. Also, the larger were those gaps, the more were participants filling them with *online* measures of cynicism. These results were more pronounced among Poles than Russians.

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Politics of Cynicism and Cynicism in Love

Extracted from other dimensions of social axioms, cynicism is the leading theme of this paper. Social axioms belong to the class of psychological variables (along with values) to which researchers ascribe at times the role of antecedents and other times, of consequents. Both roles for cynicism will be considered in our work. In Study 1, love relationships will be linked to social axioms as their antecedents, with cynicism as one of these antecedents. Drawing on the inspiration of Leung and Bond (2004), Study 2 will search for origins of social cynicism in the political system of deception. Finally, since their first important publication (Leung et al., 2002), the psychology of social axioms has been substantially challenged by methodological issues. We have also addressed these matters as the third point of our concentration.

Of all social axioms emerging from the research initiated by Leung and Bond (Bond et al., 2004; Leung et al., 2002; Leung & Bond, 2004), social cynicism deserves special attention. First, social cynicism is the strongest dimension emerging from exploratory and confirmatory factor analysis of the Social Axioms Survey (SAS). Next, since it projects a clearly negativistic worldview of human nature, cynicism is distinct from any value type or dimension, for they stress the desirable goals of human life (Schwartz, 2007). Third, as Leung and Bond (2004) differentiate between individual and cultural manifestations of social axioms, cynicism remains the only dimension which appears at both levels, social and societal (the latter being a characteristic describing a population, not an individual).

The question about the roots of cynicism is an old one and so are the answers. Leung and Bond (2004) refer to Hobbes and Machiavelli, some of the forefathers of political philosophy, whose views of human nature were far from idealistic. We could add Pareto and Marx to this list. Machiavelli inspired political psychologists to postulate a dimension which measures individual propensity for interpersonal manipulation and is named after the Renaissance thinker (Christie & Geis, 1970). As the first SAS dimension, social cynicism is the next stop in the long line of theorizing about society that can be a commentary on human nature where ulterior motives, mischief, manipulative treatment of others, and similar reciprocal expectations from them are the dominating features.

So what do we know about causal mechanisms of social cynicism?—Where does it come from?—In their attempt to provide this answer, Leung and Bond (2004) consistently point to certain aspects of political systems, and to power relationships in general:

[The items of] Social cynicism represent a negative view of human nature, especially as it is easily corrupted by power; a biased view against some groups of people; a mistrust of social institutions; and a disregard of ethical means for achieving an end (p. 134).

and

We propose that social cynicism emerges as a response to a fundamental requirement of survival and adaptation in a social world in which **deception** (*emphasis ours*) by others is frequent, and gullibility dangerous. (p. 183).

Similar is their statement about the origins of societal cynicism:

Societal cynicism, however, appears to represent the cognitive component of a previously unrecognized cultural complex that might be labeled maleficence, reflecting the assessed hostility of the social system towards its members. (Bond et al., 2004, p. 565).

Still, to date, there is no empirical evidence on specific political conditions that could be considered as antecedents to cynicism. Rather, we have a long list of correlates, of which low level of life satisfaction and work satisfaction; in-group disagreement and lack of conformity; rejection of charismatic leadership are the most salient (Bond et al., 2004; Leung & Bond, 2004).

We have emphasized the concept of deception as the path promising to further our understanding of cynicism. We will follow that lead in the context of power values and practices. Globally, power is the least preferred of Schwartz's ten value types (Schwartz, 1992, 2004; Schwartz & Bardi, 2001), and it is much less desirable than the existing practices in this domain (House, Hanges, Javidan, Dorfman, & Gupta, 2004, Chapter 17, pp. 539–540). People are much more subjected to power than they would like to be. Hence, institutions of power and individuals in power need to justify their objectionable presence, usually by referring to their allegedly prosocial goals, such as “serving the people.” Yet, it is often (or always) believed that power is their goal in and of itself, and the idea of stewardship is nothing but camouflage to conceal these real motives. Here, we propose, lies the psychological mechanism generating social cynicism.

Declared goals, which deceive others as to the real aims and values behind the practices of those in power, appear also in “nonpolitical domains” and in quite different theoretical contexts. A theory that attempts to strip human relations of higher values such as love and altruism is sociobiology. Instead of romantic, partner-centered love (Hendrick & Hendrick, 1986; Sternberg, 1986), we are told of mate selection where deceptive strategies are used to enhance reproductive success (Buss, 1996; Schmitt et al., 2003). Males display their wealth and resource potential (real or apparent); females attract males by showing their physical beauty and moral chastity (when blended, these traits produce a seductive flirt). “Pure” love, self-sacrifice, or just caring is interpreted as self-deceptions accompanying the compelling mission of propagating one's own genes. Instead of selfless altruism the *selfish gene* unravels a mechanism which diminishes the most heroic actions to genetic propagation shared by humans with prairie dogs (Dawkins, 1976). Thus, sociobiology is a theory whose message is even more fundamentally cynical than any school of thought political science has propounded.

We have sound reasons to postulate that social cynicism is a consequence of political power games and is an antecedent factor behind love relations (Boski, 2009, ch. 8). It seems plausible, however, that ordinary people will exhibit more cynicism in the world of politics, where most of us remain only as observers, than in the domain of love, where most of us are involved actors. In the perception of love engagements, actors are often convinced of their genuine love for the selected partner, while observers are more likely to adopt the cynical or sociobiological perspective: “*She is after his money*” or “*He is after her face (body)*.”

Methodological Overview

Variations of Social Axioms Survey and Online Measures

By dedicating the whole section of this paper to methods of measurement, we want to emphasize their utmost importance of these issues to the research field of social axioms and to cross-cultural psychology in general. The improvement can be achieved in two separate ways: One is a diversification of standard psychometric procedures; we have followed this path in Study 1. The other and more radical way is designing culturally sensitive methods, which Kitayama (2002) calls *online*; our second study offers an illustration of this alternative approach.

The definition proposed by Leung et al. (2002) has determined the approach they chose to measure social axioms, which are regarded as general beliefs about the social world. Indeed, the items of the *Social Axioms Survey* are framed in a general, trans-situational way. For instance, in a statement *Kind-hearted people usually suffer losses*, the authors are not interested in specifying who are the *Kind-hearted people*, nor “when,” “where,” “from whom,” and “what kind of losses,” do they suffer. The same underlying assumptions accompany the measurement of values (Schwartz, 1992) and personality traits (e.g., in the Big Five model). Yet, a “multitrait, multimethod” approach, suggested particularly by Triandis, McCusker, and Hui (1990), has encouraged us to diversify the measurement of any construct, including social axioms. Another good reason to continue with efforts for improvement of social axioms measurement is to sharpen the relatively weak factorial structure of SAS.¹

Three Variants of SAS

In our study on *Social axioms and love relationships* (Bilas-Henne, 2006), the SAS will be modified in three ways: (1) general vs. domain-specific; (2) individual vs. cultural (shared) beliefs; and (3) gender bias in cultural beliefs. They form a mixed research design which is presented with examples of items and scales in Table 1.

Social Axioms: General or Domain-Specific? Irrespective of their context-free (Leung et al., 2002) definition, we find it interesting to test the validity of this assumption. Based on the literature about attitude—behavior consistency, it could be argued that domain-specific beliefs may serve as more efficient cognitive tools than general and abstract axioms (see also Liem et al., this volume). Consequently, each abstract axiom from the original SAS was translated into the language of

¹The five dimensions accounted for only 29.42% of the variance in Leung et al. s' (2002) initial study. After selection of items which led to a shorter version of the questionnaire, Leung and Bond (2004) reported results where the percentage of explained variance rose to 35% in student and in adult samples.

Table 1 Three versions of SAS: research design for Study 1

SOCIAL AXIOMS	
Levels (repeated measures)	
Version (between subject)	INDIVIDUAL Personal beliefs: <i>“Do you believe this statement is true?”</i>
General	CULTURAL Estimation of shared beliefs in one’s social environment
	<p><u>Shared beliefs</u> “Power and status make people arrogant”. [Measured on percentage scales ranging from: 0% (no one) to 100% (every one) in my social milieu]</p> <p><u>Gender bias</u> People who hold the above statement true, also believe that it refers to: Females only -- F and M equally -- Males only (1) (4) (7)</p>
Domain specific	<p><u>Shared beliefs</u> “When one partner in a couple has achieved power and status, this makes her/him arrogant toward the other”. [Measured on percentage scales ranging from: 0% (no one) to 100% (every one) in my social milieu]</p> <p><u>Gender bias</u> People who hold the above statement true, also believe that it refers to: Females only -- F and M equally -- Males only (1) (4) (7)</p>

Table 2 Items of general and domain-specific versions of social cynicism

Social cynicism	
General version	Domain-specific version
Powerful people tend to exploit the others	Powerful people tend to exploit their intimate partners
Significant achievements require one to show no concern for the means needed for that achievement	People desirous of success show no concern even for their partner’s sake while pursuing their goals
Power and status make people arrogant	When one person in the couple has achieved power and status, it makes her/him to be arrogant towards the other
Kind-hearted people are easily bullied	Kind-hearted people are easily bullied by their intimate partners
Kind-hearted people usually suffer losses	Kind-hearted people usually suffer losses in their close relationships

intimate relations between a man and a woman. With general and domain-specific versions, we set out to compare the strength of beliefs they evoked. The full set of social cynicism axioms for both versions used in the between-subject design of Study 1 is presented in Table 2.

Individual vs. Cultural Beliefs In the studies of values and social axioms, the cultural level of measurement has been routinely operationalized as an aggregation of individual scores using the same constructs defined in metrically equivalent ways (i.e., *citizen scores*) or more frequently as new dimensions based on ecological analyses of cultural means. Yet, Boski argued for and used in his research another conceptualization: “Cultural” is conceived as the individual estimate of the spread of values or beliefs in society at large (Boski, 2006; see also Bond, 2001). This type of measurement is not free of biases, with false consensus (Marks & Miller, 1987) being the most likely, yet it gives a measure which is separate from personally endorsed items (see, e.g., Wan, Tam, Lau, Chiu, Lee, Peng, 2007; also Spencer-Rodgers, Williams, Hamilton, Peng, Wang, 2007). These two measures (see Table 1 for examples) enable us to find a degree of within-individual fit between personal and cultural expressions of axioms, and to see if the culture perception measures will play the role of moderators for relationships between personal beliefs and outcome variables (e.g., love styles).

Prototypicality of Gender Categories in Social Axioms Rather than covering the whole universe of human beings, social axioms may refer to certain categories as more prototypical than others. Since we are interested in gender relations, a question of possible gender bias (or dimorphism) in belief systems regulating these relationships can be raised. For instance, are female and male actors in such relationships considered as equally cynical? When we hear, a statement: *Kind-hearted people are easily bullied*, do we imagine females or rather males as prototypical of these *kind-hearted* people?

Standard vs. Online Measures in Cross-Cultural Psychology

In his comments about Oyserman et al.’s (2002) paper on the cross-cultural findings derived from using individualism and collectivism scales, Kitayama (2002) criticized the prevailing methodology in cross-cultural psychology where self-reflective items and scales are routinely used to measure value syndromes or belief systems. According to him, such self-reported items (e.g., “I tend to do my own thing” or “Kind-hearted people are easily bullied”) are faulty, because they are abstract and people do not attend to implicit behaviors behind them, nor do they notice accompanying mental processes. Furthermore, a *reference group effect* (Heine, Lehman, Peng, & Greenholtz, 2002) within each culture may attenuate any real cross-cultural differences about intensity or frequency of responses. Instead, Kitayama advocates the use of *online* measures in cultural–psychological research, based on concrete life-scenarios and forced-choice responses. A good example of the contrast between the standard and *online* approaches to measurement would be to (1) ask people a set of items about their sense of humor (e.g., *Do you have a sense of humor?*); and (2) record their responses (spells of laughter, ‘I find it funny,’ etc.) to samples of anecdotes, jokes, or cartoons.

We have been pursuing Kitayama's line of argument and recommendations for the last two decades, with scenarios (e.g., videos) often used in cross-cultural studies (Boski, Van de Vijver, Hurme, & Miluska, 1999). We have used a similar *online* approach in the second study reported in this paper.

Cynicism in political matters, both internal and international, is always attached to specific events and politicians, their words and deeds. People either do or do not find cynical potential in these external opportunities to enact their dispositions towards the world. Consider for instance the situation portrayed in picture 1.



This photo was snapped on a day of July 1974 in Warsaw and was broadcast as an official picture of Leonid Brezhnev's state visit to Poland. It is a visual picture of street crowd giving Brezhnev, the General Secretary of the Communist Party of USSR, and his host, Polish General Secretary Edward Gierek, 'an enthusiastic welcome.' Rising high in the crowd are the pictures of young(er) Brezhnev and banners which read "*Polish-Soviet Friendship guarantees our dynamic growth.*" The ambiance is relaxed; Brezhnev, a youthful scarf around his neck, is seen involved in an interaction with a youth, signing an autograph.

Yet, an *online* response of many Poles to this picture is a spontaneous burst of laughter, indicating a *make-believe* sense of this situation: It is stage-managed by communist state propaganda. Based on such assumptions, we measured social cynicism in our second study as online responses, asking participants to rate the probability of two types of imaginary discourse *occurring in the principal characters' minds*.

Table 3 Sample items to measure friendly vs. cynical dialogues between Polish and Russian actors in the political arena [secretaries-general: Edward Gierek and Leonid Brezhnev]

Which thoughts would you put in whose mind?	NO	no	???	yes	YES
1a. Brezhnev: "Well done, Gierek. The Pollacks welcome me as a tsar, knowing who their real boss is" (cynical)					
1b. Gierek: "I hope Leonid is pleased with this farce, which should help me at the bargaining table after the state lunch" (cynical)					
2a. Brezhnev: "These Poles are really a hospitable and cordial nation; I feel moved by their showing me so much heart"					
2b. Gierek: "Polish-Soviet friendship is not a mere slogan, but authentic feeling between two close nations"					

One type of discourse was provocative, bitter, and vicious, challenging the surface positivity of the picture. It conformed to our operational definition of cynicism: **revealing true, hidden, and ulterior motives of human conduct**. The other type of exchange was naïve-friendly (gullible) and warm. Participants were asked to estimate how likely (on a 5-point scale ranging from *definitely no* to *definitely yes*) each statement could occur in the characters' minds. Table 3 presents an example of two types of imaginary dialogue between Secretaries-General Gierek and Brezhnev, attached to photo 1.

Study 1: Cynicism in Love

Research Problems

The main purpose of this study was to investigate the relationships between social axioms and preferences for love styles as elaborated by Hendrick and Hendrick (1986). In the introductory section, we gave a cynical interpretation to love, as conceived in sociobiology to be mate selection. The psychology of love does not consider its phenomena of interest in such terms as reproduction strategies. Young adults endorse a large variety of love relations that seem to be well represented by six styles postulated by Hendrick and Hendrick (1986):

- *Eros* characterizes intensive infatuation of those who fall in love. (For example, *My lover and I have the right physical "chemistry" between us.*)
- *Ludus* typifies individuals who search for many partners and show little involvement, changing them often. (*I enjoy playing the "game of love" with a number of different partners.*)
- *Storge* is an affective bond stemming from friendship. (*My most satisfying love relationships have developed from good friendships.*)
- *Agape* is a giving type of relationship, altruistically concentrated on the partner. (*I cannot be happy unless I place my lover's happiness before my own.*)

Table 4 Hypothesized causal links between social axioms and love styles

Social Axioms	Love styles	Comments
Cynicism	Ludus	Individuals high in Ludus, treat their partners instrumentally, use and take advantage of them, hence a hypothesized link from cynicism
Reward for	Pragma	Instrumental treatment of partners may also be Application typical for Pragma, which justifies another link from cynicism. As Pragma is a nonromantic type of love, then it should involve task-oriented Reward for Application as a facilitating factor
Religiosity	Agape	We hypothesize the first link from religiosity to <i>Agape</i> because of altruistic, self-sacrifying elements of this love style. Possibly, <i>Agape</i> requires perspective taking capacity, and thus it should be related to complexity
Fate Control	Eros	Fate control is low self-control.
	Mania	Strong affects take person in possession, and this explains the links to Eros and Mania. Likewise, religiosity should be negatively linked to Eros

- *Mania* is defined as obsessive dependency on the partner. (*When my lover doesn't pay attention to me, I feel sick all over.*)
- *Pragma* is understood as utilitarian concern of finding a proper partner. (*One consideration in choosing a partner is how he/she will reflect on my career.*)

Studies report cross-cultural similarities in preferences of these love styles among Europeans: Eros ranks first with Pragma and Ludus at the low end (Babiuch, 2003; Neto et al., 2000). We propose that, behind these preferences and diverse styles of loving relationships, different worldviews can be found, justifying the individual choices. That is, we want to find out where social axioms enter to explain and control one's pursuits in the domain of intimate relations. We hypothesize a number of such links between axioms and love styles (see Table 4).

Since social cynicism is our main point of interest in this paper, its hypothetical links to *pragma* and *ludus* will be given special attention. The essence of this predicted causation lies in the instrumental use of partners which underlies both social cynicism and these two love styles, and is contrary to intrinsic care for, or shared enjoyment with, one's partner.

Comparing Polish and Spanish Cultures

Poland and Spain are EU members of equal population size, separated by a distance of over 3,000 km; the two countries have experienced low intensity of cultural contacts in the past. At the beginning of the political transformation in Eastern Europe after 1989, the Spanish way of coping with the legacy of civil war and the Franco regime was regarded as exemplary for coming to terms with problems of

the communist past in Poland. As a consequence of totalitarian regimes which reigned for half of the twentieth century, elevated social cynicism may be expected in both countries. Although the Catholic tradition is their common factor, contemporary Spain is much less religious than Poland (Guiso, Sapienza, & Zingales, 2003); thus we expected that religiosity and fate control should be less pronounced among Spaniards than among Poles (see also results for religiosity from Leung & Bond, 2004).

Method and Procedure

The research was conducted with students from Poland (Warsaw), $N_p=87$ and from Spain (Madrid), $N_s=80$. Forty-four women and 43 men of 23 years average age ($SD=2.4$) made up the Polish sample. Most of the Poles (69%) were psychology students; other participants were students of computer science, management and marketing, agriculture, and architecture.

The Spanish sample was equivalent in terms of socio-demographic characteristics: 42 women and 38 men of 22 years as their age average ($SD=2.0$). Most Spaniards (73.8%) were psychology students (32 women and 27 men); the remaining were students of economics, computer science, and the history of arts.

Social Axioms Questionnaire We used a shortened version of the SAS, with the five items that had the highest factor loadings for each of the five factors (Leung et al., 2002).

Half of the participants in each sample received the general version of the questionnaire, while the other half received its domain-specific version. Individually held axioms vs. culturally shared beliefs formed a within-subject variable. Also, all participants estimated gender prototypicality of the culture-focused beliefs (see Table 1).

The Love Attitude Scale This was the other research instrument, measuring the dependent variables (Hendrick & Hendrick, 1986). It consists of 42 items, seven for each of the six scales introduced earlier.

Procedure Research sessions were conducted individually. Each survey lasted for about 50 min and was preceded by information on the purpose of the study and its anonymity. Spanish and Polish students responded to questionnaires in their native languages, scales having been previously back-translated to ensure linguistic equivalence.

Results

Preliminary Analyses of the Social Axiom Scales: Version Comparisons We factor analyzed our shortened version of SAS and performed target rotation (Van de Vijver & Leung, 1997) to the standard pan-cultural solution, based on the Leung et al. (2002) results. Only three of the original five factors: *Social Cynicism*, *Religiosity*, and *Fate control*, emerged as clear, separate entities. For them, results

Table 5 Reliability coefficients (Cronbach α) for five axiom dimensions

Scale	Cultural questionnaire			Individual questionnaire		
	General version, <i>N</i> =84	Specific version, <i>N</i> =83	Both versions, <i>N</i> =167	General version, <i>N</i> =84	Specific version, <i>N</i> =83	Both versions, <i>N</i> =167
<i>Religiosity</i>	0.76	0.83	0.83	0.85	0.90	0.88
<i>Social Cynicism</i>	0.62	0.65	0.70	0.73	0.82	0.80
<i>Fate Control</i>	0.75	0.70	0.70	0.81	0.72	0.75
<i>Reward for application</i>	0.08	0.15	0.16	0.17	0.23	0.36
<i>Social Complexity</i>	0.44	0.41	0.41	0.43	0.67	0.59

of Procrustes rotation are highly satisfactory in both samples. The Tucker- φ coefficients were 0.96, 0.94, and 0.95, respectively, for the Polish sample; and 0.94, 0.94, and 0.97 for the Spanish sample. Table 5 provides Cronbach α measures for the three reliable factors, and also for the two remaining, which did not satisfy psychometric criteria.²

To explore cultural and type of measurement effects, analysis of variance was performed in 2 (nationality of the respondent) \times 2 (general vs. domain-specific) \times 3 (axiom dimensions—Religiosity, Social Cynicism, Fate Control) \times 2 (individual vs. perceived shared beliefs) design; the latter two were within-subject variables. The three dimensions of axiomatic beliefs were unevenly endorsed [$F(2,326)=142.07^{***}$, $\eta^2=0.466$] by participants of both countries; they scored much higher on Social Cynicism than on the two remaining dimensions ($M_{\text{cyn.}}=60.49 > M_{\text{spir.}}=46.74 > M_{\text{fate}}=40.47$; all paired differences, $p < .001$). The same analysis also revealed a significant interaction effect between country and social axiom scales [$F(2,326)=26.67^{***}$, $\eta^2=0.141$], such that Poles scored much higher than Spaniards on Religiosity ($M_p=55.32 > M_s=38.17$; $F=59.82^{***}$, $\eta^2=0.268$) and on Fate Control ($M_p=45.02 > M_s=38.17$, $F=26.69^{***}$, $\eta^2=0.141$), while both groups were similar in Social Cynicism ($M_p=60.21 \approx M_s=60.78$). Since significantly more Poles (69.4%) than Spaniards (45.5%) declared religious involvement [$\chi^2(1)=9.52$, $p=.002$], these differences in axiomatic beliefs strengthen the evidence for the higher importance of religion in the lives of Poles than in the lives of Spaniards. All these effects occurred irrespective of target of measurement; individual and culturally shared beliefs were held at the same level, and remained highly inter-correlated: $r(167)=0.503$, 0.610, and 0.534 for social cynicism, religiosity, and fate control, respectively. The contrast between general and domain-specific axioms turned out to be highly significant, however [$F(1,163)=36.65^{***}$, $\eta^2=0.184$]. General, or originally formulated SAS axioms were given higher ratings than their domain-specific

²Since our overall interest in this paper is in social cynicism, the lack of full confirmation of the five dimensional structure of social axioms is not a reason for a big concern. Possibly, the larger item pool would lead to extraction of the two remaining factors. In reporting all statistical tests here and after, we use the following notation for levels of significance: ***= $p < .001$; **= $p < .01$; *= $p < .05$.

counterparts. This result was found for religiosity [$F(1,163)=41.91^{***}$, $\eta^2=0.205$] and for social cynicism [$F(1,163)=46.12^{***}$, $\eta^2=0.221$], but not for fate control. Beliefs about the world are more strongly expressed when framed in general than in domain-specific terms, at least for two of the three dimensions. Research participants were more likely to endorse an original SAS statement: *Belief in a religion helps one to understand the meaning of life* than a more narrowly defined axiom *Belief in a religion helps one to understand the meaning of being together with your partner*. A similar tendency occurs with socially cynical beliefs—the general statement *Powerful people tend to exploit the others* receives stronger endorsement than its relational version *Powerful people tend to exploit their intimate partners*.

These results offer some empirical support to Leung and Bond's claim of broad, trans-situational nature of social axioms. Still, this tendency is not uniform: fate control beliefs do not conform to that proposition.³ Instead, participants endorsed, for example, the statement *Fate determines one's successes and failures* at the same level as its specific counterpart *Fate determines ups and downs of one's relationship*.

Gender Prototypicality or Bias in Social Axioms To answer our third methodological question of gender prototypicality in social axioms, participants rated items to the degree that they were female- or male-oriented (see Table 1 for details). Since their means differ significantly from the neutral point of the scale (4.0; $p < .01$), we interpreted religiosity ($M=3.69$) and fate control ($M=3.37$) as female-prototypical or biased axiom dimensions. With social cynicism, three dominance items are male-biased: *Powerful people tend to exploit the others* ($M=4.69$), *Significant achievements require one to show no concern for the means needed for that achievement* ($M=4.78$); and *Power and status make people arrogant* ($M=4.57$). Two submissive items, on the other hand, are female-biased: *Kind-hearted people are easily bullied* ($M=3.54$) and *Kind-hearted people usually suffer losses* ($M=3.62$). Thus, the social cynicism dimension has a clear component of social dominance, where men are seen as exploiters and women are seen as victims.

Love Styles Original scales from the Love Attitude Scale of Hendrick and Hendrick (1986) had adequate reliability coefficients: Eros $\alpha_{cr}=0.70$; Ludus $\alpha_{cr}=0.69$; Mania $\alpha_{cr}=0.65$; Storge $\alpha_{cr}=0.55$; Agape $\alpha_{cr}=0.73$; Pragma $\alpha_{cr}=0.66$.

An analysis of variance was performed on the above scales where the within-subject variable was love style defined on six levels. The effect for love type was significant $F(5,815)=102.52$; $p < .001$; $\eta^2=0.646$. All pairs differed significantly: Eros (3.69) > Agape (3.54) > Storge (3.04) > Mania (2.84) > Pragma (2.56) > Ludus (2.42).

To test the hypotheses about the relationships between social axioms and love styles, correlations between the two sets of variables were first computed. They are presented in Table 6.

³Neither are the items belonging to the reward for application domain, which, in our study, did not form a clear-cut dimension.

Table 6 Correlations between dimensions of social axioms and love styles (confirmed and disconfirmed; expected and unexpected relationships)

Social Axioms	Love styles					
	Eros	Agape	Storge	Mania [†]	Pragma	Ludus
Cynicism				0.189 [†] [Unexpected]	0.290** [confirmed]	n.s. [disconfirmed]
Spirituality [‡]	n.s. [disconfirmed]	n.s. [disconfirmed]		0.291**	0.212** [Unexpected]	
Fate Control	0.235** (confirmed)			0.311** [confirmed]	0.163 [†] [Unexpected]	
Regressions	$R^2 = .086$			$R^2 = .122$	$R^2 = .112$	
Axioms → Love styles	1. Fate control 2. (-) Cynicism	n.s.	n.s.	1. Fate control 2. Religiosity	1. Cynicism 2. Religiosity	n.s.

[†] An aspect of cynicism involves irrational behavior. Love is bline

[‡] Spirituality correlates with traditionality, which may explain its correlation with pragma

Vis-à-vis our hypotheses, the reported evidence is mixed. As predicted, *Fate control* is positively related to *Eros* and *Mania*; and so is the link from *Social Cynicism* to *Pragma*. Still, *Mania* and *Pragma* are indiscriminately correlated with the two remaining axiom dimensions, findings which run against our expectations: *Religiosity* and *Pragma*, which conceptually are located at opposite extremes of idealism–materialism, definitely are not candidates for a positive correlation.

Next step in the analysis was to explore the relationship between *Cynicism* and *Pragma*, central to our hypotheses. We wanted to know if cultural cynicism played the role of a moderator between individual level of cynical beliefs and this love style. Interaction of the two targets of cynicism was indeed a significant contributor in regression analysis ($\beta = .181$, $t = 2.47$, $p < .01$), independent of individual cynicism alone ($\beta = .303$, $t = 4.12$, $p < .0001$). Figure 1 illustrates the regression slopes for groups low and high on cultural cynicism (median split).

Cultural (normative) cynicism has accentuated the relationship between the two individual-level variables. Put differently, this relationship is strengthened when cynical beliefs are regarded as more pronounced in the participants' cultural milieu. We tested the moderating effects of shared beliefs for other pairs of individual axioms and love styles relationships (e.g., fate control and mania), but they did not emerge.

Conclusions

Several findings of the above analyses have broadened our understanding of social cynicism. First, if we contrast earthly cynical beliefs with the two transcendental belief systems (religiosity and fate control), the former remains stronger in both countries. Social cynicism prevails equally strongly in Poland and in Spain

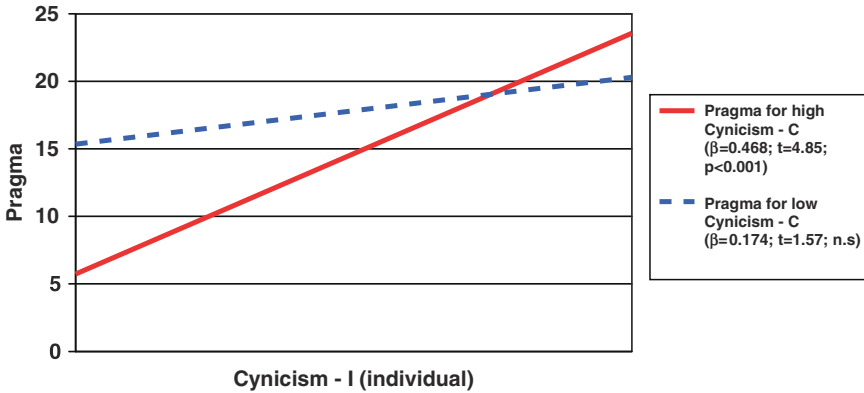


Fig. 1 Regression lines for *Pragma* on individual level cynicism (with cultural cynicism as moderator)

irrespective of their large differences in societal level of religious engagement, and in three measures of this study: religious involvement, religiosity, and fate control. Next, social cynicism is more prototypical of social life in general than of love relations. Finally, male figures are thought to be the dominant-exploitative actors of cynical axioms, while female figures appear on the victims' side.

The order of preference for the six love styles in our study is in line with those obtained by Hendrick and Hendrick (1986). A very similar profile of preferences with Eros and Storge on top and Pragma and Ludus at the bottom was reported by Babiuch (2003) and Neto et al. (2000) for the European countries. Pragma and Ludus which correspond to cynical or sociobiologically grounded mating strategies are the least preferred among young adults. (It may be always argued though, that people have no access to their real motivations in this domain or that self-presentation motives are at work, diminishing the declared preferences for these two love styles.)

Last, social axioms are predictably related to some love styles. The moderating effect of perceived shared beliefs on the link between individual social cynicism and *pragma* is of particular interest.

Study 2: Cynicism in Politics. A Case of Polish–Soviet/Russian Relations

Though references to political philosophy are explicit in Leung and Bond's (2004) conceptual elaboration and also in the scale items, social cynicism has not yet become a theme in empirical studies of intergroup relations or in political psychology.

The psychology of intergroup relations is dominated by the social identity approach where historical and cultural backgrounds of such relations are routinely

ignored (see Brown & Gaertner, 2001; Nelson, 2002). The history of international relations and politics, on the other hand, lies in the domain of social sciences other than psychology, where, with the richness of analysis and facts, a general explanatory theory is missing. A noteworthy exception connecting the two fields of work is the recent work by Liu and his collaborators on lay persons' appraisals of world historical events and actors (see, e.g., Liu et al., 2005). They asked students from six Asian and six Western countries about the most important events and figures of last thousand years of the world's history and found out that wars and wartime leaders were the most distinctive elements in social representations of history. Moreover, a Eurocentric rather than an ethnocentric view of history was dominant among all participants. One of the conclusions presented by the authors is that, "*Such representations of history can be used by Western powers to justify their military and political actions where they conflict with other groups.*" (p. 187)

Closer to the social cynicism approach is the perspective offered by Social Dominance Theory (SDT) (Pratto, Sidanius, Stalworth, & Malle, 1994; Sidanius & Pratto, 1999; Sidanius, Pratto, van Laar, & Levin, 2004). SDT is focused on the dynamics of asymmetric relations. Dominant group members justify the system, and their perception of mutual relations is more positive than that of the subordinated group members. This statement applies also to the past, which is evaluated more positively by the dominant group members; subordinate group members perceive the past from a victim-to-oppressor stance. Still, we do not find in the SDT any direct or indirect reference to social cynicism experienced on either the oppressor or victim side of the conflict. This observation led us to postulate two types of power asymmetry conflicts:

Oppressor and Victim: Two Types of Power Asymmetry Conflicts When analyzing political conflicts between two sides of unequal power, it is noticeable that they may take two (at least) different courses:

First, there are conflicts where the oppressor's aggression is explicit:

A = A

(aggression is called *aggression*)

Second, history offers examples where the oppressor presents their actions as acts of support and friendship, or brotherhood. In this case aggression is camouflaged:

A = B

(aggression is called *brotherhood* or *friendship*).

The first type of conflict is explained in the literature as a consequence of dehumanization (Aronson, Wilson, & Akert, 1994). If members of the oppressed group are referred to as subhuman beings, e.g., *worms*, *insects*, etc., the conclusion that they should be finished off comes easily. Such explanation becomes psychologically simpler when the victim does not resemble the oppressor, when the cultural distance between groups is so large that differences are easily recognized (*they are not like us*). The current Arab-Muslim vs. US conflict, with Arab terrorism attacks and American military invasion in Iraq, is a good example of this type of situation (Sidanius, Henry, Pratto, Levin, 2004).

When the victim is culturally closer to the oppressor, their interpersonal situation becomes more complicated and dehumanization is more difficult to implement. We postulate that the oppressor may embark on a strategy comparable to a well-known defense mechanism of *reaction formation*. Then, real goals and motivations, which remain aggressive, are disguised and presented as laudable and praiseworthy. Invasion, for example, becomes officially called “*assistance offered to our friend/brotherly nation.*”

Further, we postulate that different coping styles take effect on the victim’s side in each case. With dehumanization, members of the oppressed group feel hostility, and respond with aggression (moderated by fear of retaliation). In the case of reaction formation, **the discrepancy between the oppressor’s propaganda and the victim’s experienced reality generates a potential of social cynicism for the latter.** Social cynicism reflects a mistrust of social institutions and a pervasive suspicion of manipulation; it manifests itself through black humor, sarcasm, and nastiness.

Figure 2 presents these two theoretical models of conflict dynamics.

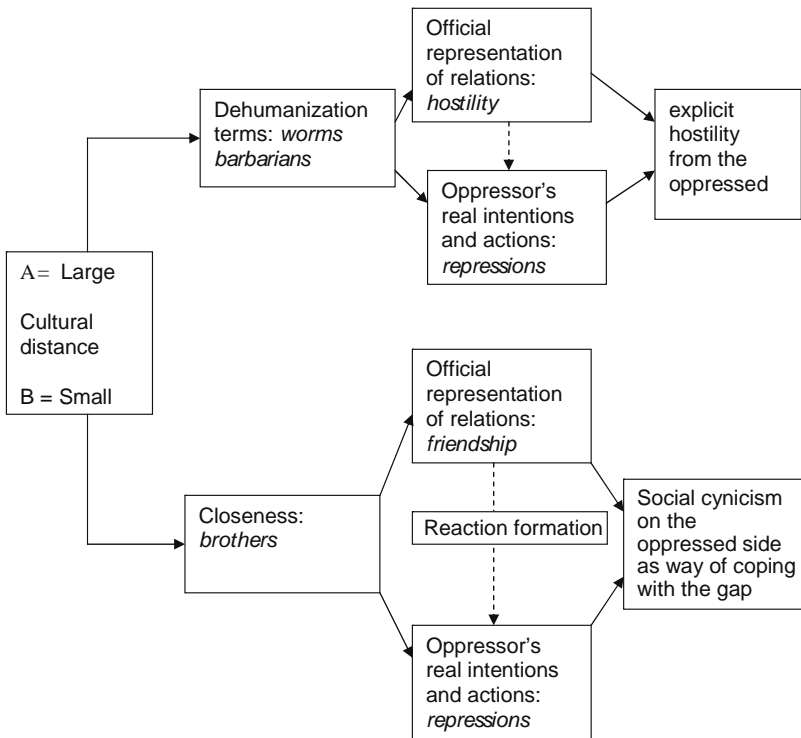


Fig. 2 Model of intergroup conflict: Dehumanization and reaction formation

Based upon this model, we formulate two theoretical hypotheses:

- *Dehumanization* serves as an explanation of intergroup aggression when cultural distance between oppressor and victim is large. Conflict is explicit and is openly manifested.
- *Reaction formation* appears when cultural distance is small. In this case, propaganda of friendship remains in opposition to people's popular experience, generating their mistrust of authorities and hence social cynicism.

Cynicism in Polish–Russian Relations

Polish–Russian relations have been dominated by wars, occupation, and uprisings for the last 250 years. Fifty years (1939–1989) combining World War II and the communist rule which followed are a case in point, because they were officially presented as the period of liberation and assistance, whereas in fact they were based on aggressive dominance by the Soviet Union. History of that time is stretched between two extremes: officially propagandized communist brotherhood and repressive domination. The key example of this reaction formation and denial strategy was *Katyń Murder and Lie*.⁴

Cultural Distance

Cultural distance between Poland and Russia is relatively small. Both cultures belong to the Slavic ethno-linguistic group and this proximity is supported by research results on subjective culture. No significant differences between the two countries were found, for instance, on any of nine dimensions of cultural practices, according to the GLOBE project (House, et al., 2004).

We propose that the asymmetric configuration of power and small cultural distance has resulted in *reaction formation* mechanism in the propaganda of Russian/Soviet–Polish relations and led to cynicism especially on the Polish side. There was a noticeable discrepancy between the official version of events (*friendship, brotherhood, fight for peace, and social justice*) and the Poles' experienced

⁴The killing of around 20,000 Polish officers, prisoners of war, executed by order of Stalin and his *Politburo* in April of 1940. For the first three years Russians feigned ignorance about what had happened and since the discovery of mass graves in 1943 by the Germans, they pointed to the Nazis as the perpetrators, maintaining this lie until 1992 when President Yeltsin presented crucial documents of Soviet guilt to Polish authorities. In 2007 a film “Katyn” by the world famous director, Andrzej Wajda (whose father was executed at Katyn), was released. It has been nominated for Oscar 2008 (in the category of the best foreign film).

reality (limited sovereignty of Poland, economic and political control of USSR, repressions, etc.). We thus formulate three empirical hypotheses:

1. In their representation of Polish–Russian history, (1a) Polish participants will demonstrate significant group-level discrepancies between official (O) and experienced (E) aspects of bilateral relations; (1b) individual-level correlations between O and E measures will be negative; and (1c) the wider the group level discrepancies, the more negative will be the individual-level correlations between O and E.
2. To Russians, the discrepancies and correlations between official and experienced aspects of Polish–Russian/Soviet relations will be smaller, compared to those of Polish participants.
3. Appearing as a consequence of *reaction formation* in international relations, (3a) social cynicism will be positively associated with the degree of discrepancies between official and experienced versions of these relations. (3b) Social cynicism will be more pronounced among Poles than among Russians.

Method

To study their appraisal of Polish–Soviet/Russian relations, we recruited participants who experienced those relations in their lives to various extents. Those were (1) people in their 50s, whose young adult life occurred at the time period of the communist regime and (2) their children (in their 20s), who experienced political and economical changes and a loosening of Polish–Russian relations following the 1989 transformations.⁵ Research was conducted in three Polish cities⁶ (Warsaw, $n=98$; Bialystok, $n=98$; and Zielona Gora = 100) and in Moscow ($n=103$) to obtain perspectives of persons from both nations on their bilateral relations.

Participation in this research required a certain level of historical knowledge. This is a potential problem with the younger generation, who did not witness most of the events presented in this study. That is why participants from the children group were recruited among university students both in Poland and in Moscow. We are aware that our samples are not representative for Poland and Russia in general.

Data were collected in 2003 and 2004 in Poland and in 2004 in Moscow. No major political events between the two countries took place during those months

⁵ Within-family and between-generation comparisons are not subjects for analyses in this paper.

⁶ We chose those locations to check if there was any regional specificity in perception and evaluation of history. Warsaw as the capital has often been the scene of international events which are memorialized there by special markers (buildings, monuments, etc.). Bialystok is located close to the Eastern border of Poland with Belarus, at the former border with Soviet Union, where there has been intensive economic co-operation with Russia since the XIX century. Zielona Gora is a provincial capital at the far West of Poland; it is comparable in its size and significance with Bialystok. At Zielona Góra, there have been intense cross-border exchanges and contacts with Germany after the collapse of communism; and before its withdrawal in 1992, the Soviet Army had its bases there.

(President Kwasniewski of Poland and President Putin of Russia were in their second terms in office).

Research Tools

Assessment of Polish–Soviet/Russian Relations To obtain the *reaction formation* measures of discrepancy between the propagandist and experienced reality, we selected six historical periods of Polish–Russian/Soviet relations⁷; they are presented in Table 7.

Each participant’s task was to assess Polish–Russian/Soviet relations during each of these periods on 15 rating scales. Each time, this exercise was done twice: (1) as an assessment of official relations (the propaganda version) and (2) as a personal opinion of ‘*how they really were.*’ Table 8 contains sample items of this research instrument.

Table 7 Six historical periods on Polish–Soviet/Russian relations investigated in Study 2

Years	Name of the period	Key figures
1948–1956	Stalinism, cold war	Stalin, his personality cult
1970–1980	East–West Arms race	Leonid Brezhnev—Secretary-General, Communist Party of the USSR
	Poland’s opening to the West	Gierek—First Secretary of Polish Communist party
1980–1984	“Solidarity” and Martial Law in Poland	Pope John Paul II, Lech Wałęsa, Head of Solidarity and President of Poland General Jaruzelski, Leonid Brezhnev
1985–1989	Perestroika	Mikhail Gorbachov
1990–1995	Collapse of Communism	Boris Yeltsin, President of Russia;
1996–2005	Political transformation and consolidation	Aleksander Kwaśniewski, President of Poland; Vladimir Putin, President of Russia

Table 8 Sample items to assess Polish–Soviet/Russian bilateral relations. How were the officially presented (O) and the experienced (E) relations between Poland and Soviet Union at the time when this picture was taken? (Put O and E in the appropriate box on each scale.)

Profitable		Leading to exploitation
Intense		Loose
Fair		Unfair
Freely shaped		Forced
Hostile		Friendly

The grey shaded boxes corresponds with a 7-point scale used in this measure

⁷Missing is the period of 1956–1970, called *destalinization* and personalized by N.S. Khrushchev in USSR and W. Gomułka in Poland. It was represented though with pictures used to measure social cynicism.

Photographs of Historical Events and Assessment of Cynicism We used a set of 14 photographs illustrating Polish–Russian/Soviet personalized interactions from 1940 till 2002. They appeared in the daily press or weekly magazines accompanying the portrayed events, and often reappeared later in historical albums. When selecting the pictures, we took into account the following criteria: (1) the bilateral character of each photograph and the clear national affiliation of the presented characters or symbols; (2) important historical figures and events which would be well remembered in academic and popular historiography; (3) prototypicality for the given period and availability measured by their repeated presentation in media, handbooks, etc.; (4) positive upbeat or at least neutral–factual affective messages being sent to the viewers; and (5) balance in power and affective tone on each side, to avoid ethnocentric distortions.

Fourteen photos presented a sample of political leaders, sports champions, and cosmonauts, as well as historical monuments; they are all listed on the Appendix at the end of this chapter. One of them was that bringing together communist general secretaries Brezhnev and Gierek, which we discussed earlier. To each photograph two types of imagined dialogues between the main characters were attached: one was friendly and the other was cynical. Participants rated the chances that such conversations would have been likely to have occurred in the minds of those actors.⁸

Results

Bilateral Relations: Official and Experienced From 15 scales on which bilateral relations were evaluated, one factor was extracted for each of the six historical periods. For the official versions of bilateral relations, the single factor explained between 41% (lowest) and 54% (highest) of the matrix variance. Cronbach α s for these scales ranged from 0.65 to 0.75. These parameters were similar for the experienced versions: percentages of explained variance ranged from 42% to 54% and Cronbach α s varied between 0.58 and 0.73. Thus, we constructed separate scales for official (O) and for experienced (E) versions of Polish–Russian relations at six historical points. In the first stage of analysis we computed results for three Polish cities; next, to get more even and comparable samples sizes, a separate analysis of Warsaw and Moscow data was performed.

To examine the discrepancy between official and experienced versions of mutual relations from Polish perspective, a multivariate analysis of variance was computed in the design: 3 (Polish cities) * 2 (generations) * 2 (sexes) * [2 (version O/E) * 6 (historical periods)], where the last two were within-subject factors.

The effects of city (in Poland), sex, and generation turned out to be insignificant or marginal and will not be included in the next steps of our presentation. Results

⁸The measurement technique can be labeled as “semi-projective.” For more details on methodology and historical–cultural background of this study, see Więckowska and Boski (2007).

show a significant difference between both versions of Polish–Russian/Soviet relations ($1,264=978.88^{***}$, $\eta^2=0.788$, with the official version ($M_{\text{off.}}=5.51$) seen more positively than the experienced ($M_{\text{exp.}}=3.09$). The most interesting result is that of an interaction effect between versions and historical periods $F(5,1320)=184.25^{***}$, $\eta^2=0.411$: the largest discrepancy was found for the most distant past, becoming smaller as the events kept approaching current days. With the end of communism, the impact of official propaganda gets weaker $F(5)=56.01^{***}$, $\eta^2=0.174$, and at the same time experienced relations appear to be improving (become less negative), $F(5)=201.48^{***}$, $\eta^2=0.430$ (see Fig. 5).

The interaction between the two versions of bilateral relations and the six historical points can be portrayed as *open scissors effect*: the higher the propagandist view of mutual friendship, the lower its experienced reality of oppression, subjugation, exploitation, and humiliation. The gap is wide open during the Stalinist era and it shrinks considerably for the last two points of measurement which mark the collapse of the communist regime. (The two lines remain well apart manifesting continuity of the gap, though.)

The design used for Polish data group level analysis was repeated for Warsaw and Moscow: 2 (capital cities) * [2 (version O/E) * 6 (historical periods)], with the last two being within-subject factors. Figure 3 presents the relevant results.

Results of a two-way interaction show that official versions of bilateral relations were rated higher by Poles than by Russians, whereas experienced versions were perceived more positively by Russians, $F(1,134)=53.25^{***}$, $\eta^2=0.284$. A three-way interaction between city of residence (Warsaw/Moscow), historical period, and version ($F(5,670)=30.88^{***}$, $\eta^2=0.187$) shows that the *open scissors* effect of discrepancy exists only among Poles. Among Russians this discrepancy remains stable over time.

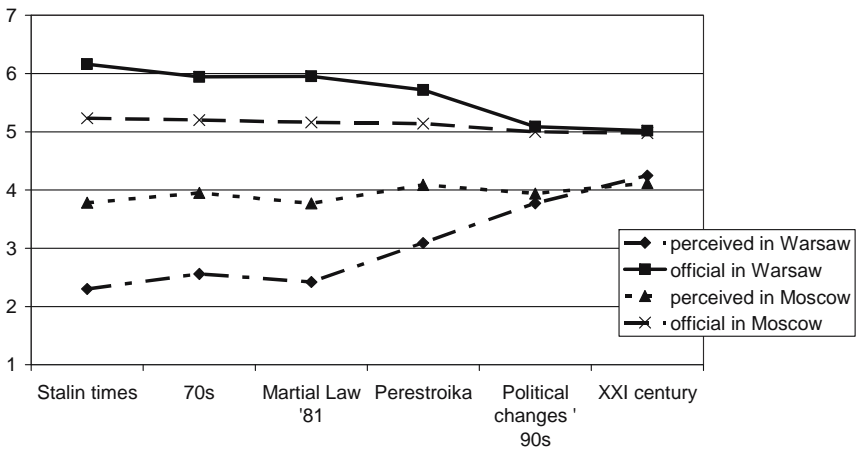


Fig. 3 Polish–Russian/Soviet relations in the second half of the twentieth century as seen from Warsaw and from Moscow

Table 9 Correlations between official and experienced versions of bilateral relations from the Polish and Russian perspective

	Historical periods					
	Stalin times (1950s)	Brezhnev–Gierek Decade (1970s)	Martial Law in Poland (1980–85)	Gorbatshev’s Perestroika (1985–1989)	System transformation (1990–1995)	XX/XXI century (Kwaśniewski–Putin)
Poland (N=406)	-0.626***	-0.610***	-0.554***	-0.445***	-0.132*	0.059
Warsaw (n=98)	(-0.614***)	(-0.614***)	(-0.443***)	(-0.442***)	(-0.127*)	(0.321**)
Moscow (n=104)	0.106	-0.123	0.054	0.286*	0.132	0.463***

*** $p < .001$; ** $p < .01$; * $p < .05$.

These findings are further documented when we inspect the correlations between the individual level O and E versions of relations for six historical periods among Russians and Poles; they are presented in Table 9.

With Polish data, (three cities combined and separately for Warsaw) the correlations are high and negative. However, their structure changes at the time of political transformation: when the {O–E} discrepancies diminish, correlations of both scales become insignificant or even positive. For the Russian sample not only were the discrepancies smaller and without the *scissors* effect, but also correlations ranged from insignificant to strongly positive (for the period of Kwasniewski and Putin presidencies).

The reported results support hypotheses 1 and 2. The history of Polish–Russian/Soviet relations viewed from the Polish perspective offers a clear picture of the *reaction formation* mechanism. From the Russian perspective, the history of mutual relations is “flatter”: the discrepancies are smaller, sometimes revealing even positive correlations between its two versions.

Cynicism in Characters’ Discourse Character-attributed statements split into two separate factorial scales of (a) friendly, positive discourse and (b) cynical, negativistic discourse (their range of correlations runs from $r = -0.288^{**}$ to $r = +0.183^{**}$, with a median value of $r = -0.036$). Analyzing the Polish sample we found two interesting results. First is the main effect of discourse type [$F(1,289) = 102.13^{***}$, $\eta^2 = 0.261$], indicating that cynical discourse ($M = 3.51$) dominates over the friendly approach ($M = 3.08$).

The interaction effect of discourse type and characters-in-pictures, $F(8,2312) = 110.28^{***}$, $\eta^2 = 0.276$, shows that the degree of cynicism varies depending on who the actors were. It is noteworthy that the only instance when friendly overtones were more pronounced than cynical remarks is the dialogue between the two first ladies: J. Kwasniewska and L. Putin ($M_{\text{friend}} = 3.73 > M_{\text{cynic}} = 2.87$, $p < .0001$).

Warsaw–Moscow comparisons revealed an interaction such that Poles were more inclined to choose negative discourse than Russians [$F(1,187) = 37.45^{***}$, $\eta^2 = 0.167$], who rated both types of discourse of equal strength, as illustrated in Fig. 4.

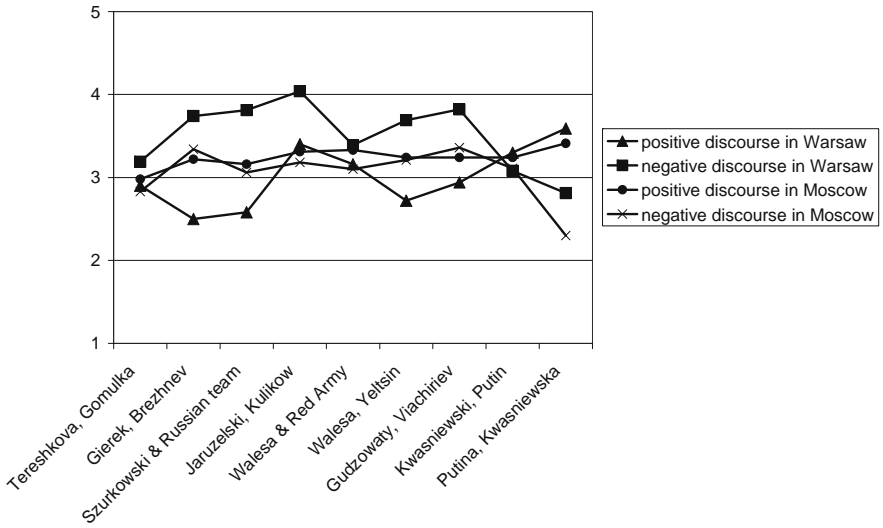


Fig. 4 Preferences for friendly and cynical discourse in Warsaw and in Moscow

Propaganda—Experiential Discrepancy and Social Cynicism We approach the central hypothesis of this study which considers the gap between propagandist and experienced versions of social reality as cynicism-generating potential. Hence our question: are the wide discrepancies between the two O and E versions of political reality better “filled” (i.e. predicted) by cynical discourse emanating from the heroes of their times, than the lower discrepancies?

We restricted the scope of analysis to Polish data set, because only there was the discrepancy effect (the *open scissors effect*) demonstrated. We used six periods and ten photographs to run regression analyses where cynicism measures of each photograph were the predictors and differences between the official and the experienced {O–E} state of bilateral relations were the dependent variables.

The three earlier historical periods when the discrepancy gap was wide, viz., *Stalinism* (1950–1956), *Decade of the 70s*, and *Solidarity and Martial Law* (1981–1985), get relatively high R^2 values ($R^2 \geq 0.30$). For the two latest periods, marked by presidents Walesa and Yeltsin and Kwasniewski and Putin, discrepancies are smaller and the impact of cynicism is minimal. Figure 5 presents results of these regression analyses.

The upper line of official propaganda and the lower line of experienced reality are on a track of convergence and the space between them creates, according to our theoretical formulation, their potential for generating cynicism. R^2 indices illustrate the percentages of this potential accounted for in each period by empirical measures of cynicism. The maximum is 34% for the period of Martial Law and crackdown on *Solidarity* (1980–1981), when the threat of the Soviet invasion grew high, and the minimum is 2.1% during the first years of transformation led by Walesa and Yeltsin.

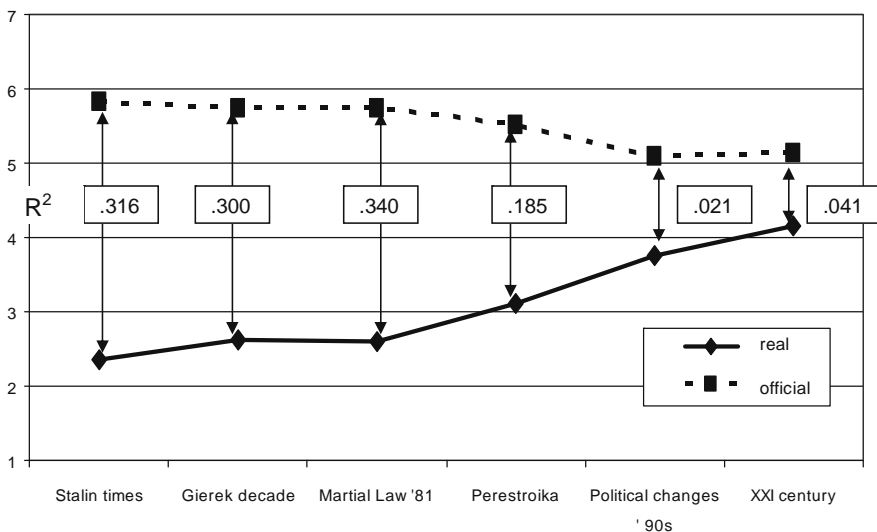


Fig. 5 Gap between propagandist and experienced representations of Polish/Soviet/Russian relations filled by cynicism (Polish data from three cities)

Our third hypothesis was thus confirmed. As its origins ended with collapse of communism, so too did social cynicism.

Conclusion

Social cynicism originates from the dishonesty and hypocrisy sensed in the pronouncements and gestures of authority figures. The level of cynicism, measured as a tendency to ascribe unfriendly, provocative statements to public characters, was higher when the objective discrepancy between official and experienced version of events was wider. This finding confirms our main theoretical proposition.

Also in line with our theoretical model is the finding that the cynicism-generating potential was higher among Poles who represented the weaker side in bilateral relations than among the Russians, who represented the dominant side and legitimized the bilateral relations.

The Moscow data showed flat evaluation and a smaller discrepancy in cynicism ratings across historical periods; there was also no clear preference for friendliness or cynicism in the dialogue attributed to the pictures. The reason for this diminution of effects may be that Poland has not been regarded by Russians as a neighbor of sufficient importance; hence a lukewarm approach to the bilateral relations between the countries. Poland is for Russia just one of many neighboring states that have fallen under her influence throughout the centuries. In a sharp contrast, Russia has always been a powerful neighbor to Poland, always to be taken into account. This explains why Russia is more present in Polish consciousness than Poland is in the Russian.

Additionally, and in line with Social Dominance Theory (Sidanius & Pratto, 1999), Russians, as members of the dominant group, legitimize the system which gives them a superior position and have perceived their common history in a more positive way. Moreover, different interpretations of history—from its justification among Russians, to resistance by cynicism among Poles—serve to protect their national identities.

General Conclusion

What is the essence of social cynicism? Why can it become of such importance for individual and cultural worldviews? Why does it impinge so much on popular epistemology? Why are cultural differences in intensity of cynicism so large? We believe that our studies make a step towards answering these questions.

To start with the first question, social cynicism is brought about by the fact that many motives for human conduct, individual and group, are concealed, they are different than the make-believe. It may be unavoidable in the domain of politics, where those in power, or others seeking that power, present ideologies and programs to justify their actions in terms that appear different from what they “really” are. It is well known from Schwartz (2004) and GLOBE (2004) that people in general dislike power; it is the least preferred value! So, it is necessary to sweeten distasteful reality by creating cover-up impressions implying that those seeking power are motivated by other, more lofty ideals—justice, peace, freedom, and “humble service to the people.” The gap between words and deeds seems unavoidable, as are the inevitable, “unfulfilled” promises. Democratic government is not free from this cynical fallacy, though its institutions like an independent judiciary make it easier for inequities to be uncovered and controlled (by the opposition).

We demonstrated (Study 2) that a tough, totalitarian regime generates cynicism potential most strongly, especially among citizens of the inferior partner. Also, communism may mastermind the game of propaganda-generated cynicism more than other repressive systems which do not camouflage their aggressive intentions. The unraveling of this mechanism is, we believe, our contribution to the psychology of group relations in the world of politics, beyond the social dominance theory and dehumanization hypothesis.

Theoretical beliefs (sociobiology) as well as popular axioms relate cynicism to love. Here the game of finding and maintaining a mating partner requires shrewd strategies, which also conceal the motives ascribed to the actors by sociobiology. Yet, in this domain so important for personal life, people are inclined to hold other conceptions of close relations—*Pragma* which is linked to cynical axioms is the least preferred love style.

A common denominator to both studies is the finding that cynicism is a male-dominated epistemology. It is widely recognized that men have dominated the world of political power and also bring cynical characteristics into the game of gender relations. Thus, empowering women may lower social cynicism in a social system. Consistent with this argument, Leung and Bond (2004) have shown that

citizen scores on social cynicism are higher in countries with lower levels of institutional equality between the genders.

Our two studies have posed an important agenda for measuring social axioms and social cynicism in particular. In Study 1 we tested variations of the standard SAS. These attempts proved useful. Especially, shared beliefs (perceived about one's culture) was an important moderator of individual-level relations between individually endorsed social cynicism and the love style of *pragma*. Also, people hold their beliefs more strongly in general than in the domain-specific level, confirming Leung et al.'s (2002) initial intuitions.

In Study 2, we used an *online* measurement of cynicism, which is characteristic of a cultural rather than a cross-cultural approach to psychology. We have no direct empirical evidence that this *online* measurement taps the same construct as the SAS does. The field of research on social axioms is still very young and, hopefully, it will be expanding. There is no need that future research be based entirely on the SAS. We call for other online, culture-sensitive measures, as well as for uncovering theory-driven, cultural conditions generating the human propensity for specific beliefs, as we have done in this paper with social cynicism.

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Appendix: List of Photos Presented to Participants⁹

1. *Katyn Cross* from Powazki Cemetery in Warsaw, commemorating murder of Polish officers by Soviets. With inscription: *KATYŃ 1940 Kozielsk, Ostaszkow, Starobielsk*.
2. *Cemetery memorial*—Monument of Soviet soldiers in Warsaw, with inscription in Russian and Polish: *In memory of soldiers of Soviet Army who died liberating Poland from German occupation in 1944–1945*.
3. Gathering of workers in a factory after Stalin's death to honor him with a minute of silence. The picture presents workers gathered in a production hall, standing next to Stalin's portrait crossed with a black ribbon and above them a banner saying: *Eternal glory to Josef Stalin—Liberator of Polish Nation*. (March, 1953).
4. *Valentina Tereshkova—Vladyslav Gomulka*: the picture presents V. Tereshkova, Russian cosmonaut woman, walking next to W. Gomulka, I Secretary of Central Committee of the Polish Communist Party during her official visit in Poland, October 24, 1964.
5. *L. I. Brezhnev—E. Gierek*: official state visit of L. Brezhnev, the Secretary General of Soviet Communist Party in Warsaw. He is welcomed by E. Gierek, I Secretary of Central Committee of the Polish Communist Party and crowds of people on streets of Warsaw, July 19, 1974.
6. *R. Szurkowski—Russian team of cyclists*: Lap of honor of the winners of XXVIII Peace Race. Szurkowski, a Pole, won individual competition, and the Russians won the team race. May 22, 1975.
7. *M. Hermaszewski—P. Klimuk*: Polish and Russian cosmonauts next to *Soyuz 30* capsule, after their landing from the orbit, July 1978.
8. *Jaruzelski—Kulikov*: Polish general W. Jaruzelski and Soviet marshal V. Kulikov during military exercises of Warsaw Treaty armies in 1981.

⁹Pictures are presented in chronological order. Participants obtained them in different, not chronological orders. There were two presentation orders of photographs.

9. *Jaruzelski–Gorbachov*: Official state visit in Poland by Secretary General M. Gorbachov. During his walk on the streets of Krakow, accompanied by I Secretary of Polish Communist Party W. Jaruzelski; July 1988.
10. *L. Walesa–Red Army*: Soviet troops leaving Poland. Polish president farewells the soldiers at his residence in Warsaw; June 1992.
11. *L. Walesa–B. Yeltsin*: official visit of the Polish presidential couple in Russia. Meeting with president B. Yeltsin and his wife at a reception on Kremlin, May 22, 1992.
12. *Gudzowaty–Viachirev*: Polish businessman A. Gudzowaty, president of Gas-Trading and R. Viachirev, president of Russian GazProm, next to the finished Polish part of the gas pipe Yamal-Europe, September 23, 1999.
13. *A. Kwasniewski–V. Putin*: A. Kwasniewski, president of Poland, greeting V. Putin, president of Russia, during his state visit in Warsaw; January 16, 2002.
14. *J. Kwasniewska–L. Putina*: Polish first lady Jolanta Kwasniewska, meeting her counterpart Ludmila Putina, first lady of Russia in Krakow; February 2002.

Social Axioms in Italian Culture: Relationships with Locus of Control and Moral Development

Anna Laura Comunian

Abstract The aim of the present research is to examine (a) the dimensionality of social axioms in Italian culture, in particular as an emic exemplar of social axioms (Section 1) and (b) the relationships between social axioms and coping style and moral development dimensions, in Italian culture (Section 2): Our results suggest that one may raise the question whether the five dimensions representing social axioms are comprehensive. In particular, in Italian culture, the *Religiosity* dimension is influenced by complex emic meanings that we propose to study in future research. We would expect that they should relate to a variety of personal and social behaviors reflecting the Italian cultural and historical legacy in a distinctive way. Future research also needs to examine how in the Italian context these axioms may help explain personal and social behavior alone or in conjunction with other psychological constructs. On the whole, it can be asserted that social beliefs seem to offer a valuable new way for researchers to examine and explore topics emically and in cross-cultural research.

Introduction

Bel paese (beautiful country) is an affectionate term for Italy first used in a book by the Abbot Antonio Stoppani (1910). A land of saints, poets, heroes, and navigators, Italy's traditions are deeply rooted in the ancient Christian faith. The Romans unified the Italian peninsula, inhabited by Greek colonists, gentle Etruscans, and various Indo-European tribes. They also spread peace and prosperity throughout the Roman Empire, from Upper Mesopotamia to the

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British Isles. Later, during the Middle Ages, various barbarian invasions and the plague weakened the Empire, which split into two. Populations of Lombards, Franks, and Normans ruled over the Italian territory, while gradually some city-states acquired freedom from their feudal lords and then flourished in the splendid Renaissance period. The Italians finally became independent from the foreign rulers—French, Spanish, and Austrian—under the dashing leadership of Giuseppe Garibaldi in 1871. After the period of Fascist rule at the beginning of the twentieth century and the years of political terrorism in the 1970s, Italy stabilized and joined the European Union. The long and tumultuous transition from the powerful Roman Empire, “Roma caput mundi,” to member-state of the EU has left a rich cultural and historical legacy, influencing present Italian values and beliefs.

In the Italian context, the present research questions are: (a) Does Italian measurement of the Social Axioms (SAS-I) produce results equivalent to those of the study conducted with the Social Axioms Survey by Leung and Bond (2004)? (b) What are the emic relationships between social axioms and psychological aspects of Italian culture, in particular coping styles and moral development?

Axioms are defined as general, context-free beliefs that people hold about their social world as a result of their socialization experiences and are central to people’s cognitive functioning (Leung & Bond, 2004). Social axioms are assumed to be pan-cultural because of their functionality and because of the universal problems that humans have to tackle for survival. Leung and Bond underlined that, like attitudes, social axioms serve four major functions: they facilitate the attainment of important goals (instrumental), help people protect their self-worth (ego-defensive), serve as a manifestation of one’s values (value-expressive), and help people understand the world (knowledge).

It has been argued that social axioms should show more cross-cultural variability than concepts frequently used in explaining cultural differences and that social axioms should provide a more powerful explanation of cross-cultural differences in some domains of social behavior (Leung, 1989; Leung and Bond, 1989). Some beliefs are very specific and are defined by the actors involved, the setting and even the time period. However, *social axioms* as general beliefs are basic premises that people endorse and use to guide their behavior in different situations. These beliefs are often assumed to be true as a result of personal experiences and socialization, but not as a result of scientific validation (Leung & Bond, 2004). Social axioms play a *central and organizing role* in people’s belief systems.

The fact that these social axioms are recognizable by people of diverse cultural origins does not mean that they endorse these social axioms to the same extent. The extent to which a given dimension of social axioms is endorsed by people in a given culture represents the solution of that cultural group to key fundamental issues. Therefore, the aim of the present research is to examine: (a) the dimensionality of social axioms in Italy, in particular as an emic exemplar of social axioms (Section 1) and (b) the relationships between social axioms and coping style and moral development dimensions in Italian culture (Section 2).

Section 1

Italian Form of the Social Axioms Survey (SAS-I)

Extensive work has been carried out by Leung and Bond (2004) towards identifying the factor structure of the Social Axioms Survey. The original English version was used for the Italian translation, and back-translation was used for checking the accuracy of the translation. Bilingual judges (Italian—English, English—Italian) were also used to ensure the quality of the translation (see Social Axioms Survey—Italian Form in the Social Axioms web site, <http://personal.cityu.edu.hk/~mgkleung/sa.htm>). Each item is phrased in simple language. A five-point scale was used for the items, with labels ranging from “strongly believe” and “believe,” through “no opinion,” to “disbelieve” and “strongly disbelieve.” The form of SAS-I applied in this research consisted of 60 items.

The Italian version of the Social Axioms Survey (SAS-I) was administered to adults and college students. The dimensionality assumptions were tested using Principal Components Factor Analysis, Confirmatory Factor Analysis, and Procrustes Rotation.

Method

Participants

A total of 689 adults and university students were included in the study. Students participated in partial fulfilment of a course requirement or on a voluntary basis. Gender balance was achieved by randomly discarding cases from the gender with the larger number of participants. At first, the data were screened and response patterns indicating careless responding were discarded. Ten cases were thus dropped, resulting in a final sample of 679 participants (339 males and 340 females). Mean age was 25.18 and $SD = 15.48$. Level of education was 69.8% university degree level. Participants were asked to complete the SAS-I anonymously, individually or in small groups. It usually took about 20–25 min to complete the Survey.

Results

Principal Components Factor Analysis

Principal Components Analysis with Varimax rotation and Kaiser normalization was conducted to identify the factors underlying the items. The scree plot clearly suggested a five-factor solution, accounting for 34% of the matrix variance.

Oblique rotation was also tried, but the results were very similar to those from the Varimax rotation, so the focus will be put on results from the Varimax rotation. A six-factor solution was also examined, but it turned out that the composition of the factors in the six-factor solution was very similar to that of the five-factor solution with the sixth factor containing only a small number of social axioms. We accepted the five-factor solution as optimal for ensuring relevance and meaning for the local Italian culture. The five axioms dimensions were formed by the items that loaded greater than or equal to 0.35 on one factor and less than 0.30 on the other factors.

These five factors were defined as: *Social Cynicism*, *Reward for Application*, *Social Complexity*, *Fate Control*, and *Religiosity*. As presented in Table 1, factor one was labeled *Social Cynicism* (variance 6.86%; eigenvalue 4.19), because its items represent a negative view of human nature, a mistrust of social relationships, and a disregard of ethical means. The second factor was labeled *Reward for Application* (variance 3.32%; eigenvalue 5.53), and its items represent a general belief that mutual respect and involvement rather than power will lead to positive results. The third factor was labeled *Social Complexity* (variance 2.91%; eigenvalue 4.84), because the items in this factor suggest that there are no rigid rules, but rather multiple ways of achieving a given outcome, and that inconsistency in human behavior is common. The fourth factor was labeled *Fate Control* (variance 2.80%; eigenvalue 4.67), because its items represent a belief that effort, knowledge, and careful planning are ways to influence personal outcomes. The fifth factor was labeled *Religiosity* (variance 3.86%; eigenvalue 13.30), with its items referring to the belief in the positive social functions of religion.

Confirmatory Factor Analysis

Confirmatory Factor Analysis (CFA) was used to evaluate whether these five factors could be identified as in the original structure (Bond et al., 2004a, b) and thereby confirmed. The procedure of combining a few items to form “parcels” was adopted, a strategy which substantially reduced the number of parameters to be estimated. Five parcels were composed by the items which were loaded in each of the five factors. The use of items of each respective factor as parcels is common when estimating complex structural equations models. In our analysis of the Italian data, parcels were formed for each factor, with each parcel containing 9 to 15 items. To evaluate the internal consistency of these parcels, the alpha coefficient of each parcel was first examined. Besides, because alphas are sensitive to the number of items included, and they tend to be small for scales with a small number of items, the average interitem correlations were used as another index of internal consistency. All parcels showed a reasonable level of internal consistency.

The CFA results confirmed the previous five-factor model. The fit indexes for the Confirmatory Factor analysis on the Italian data for *Social Cynicism*, *Reward*

Table 1 Five-factor solution for the Italian sample

<i>Item</i>	Factor 1: Social Cynicism	Factor 2: Reward for Application	Factor 3: Social Complexity	Factor 4: Fate Control	Factor 5: Spirituality in Religiosity
Powerful people tend to exploit others	0.67				
Power and status makes people arrogant	0.64				
Kind-hearted people usually suffer losses	0.56				
Old people are usually stubborn and biased	0.55				
Kind-hearted people are easily bullied	0.52				
It is rare to see a happy ending in real life	0.52				
The various social institutions in society are biased towards the rich	0.50				
It is easier to succeed if one knows how to take short-cuts	0.48				
People deeply in love are usually blind	0.45				
Females need a better appearance than males	0.38				
People will stop working hard after they secure a comfortable life	0.36				
Old people are a heavy burden on society	0.36				
Most people hope to be repaid after they help others		0.60			
Competition brings about progress		0.52			
Hard working people will achieve more in the end		0.46			
Adversity can be overcome by effort		0.45			
Every problem has a solution		0.44			
One who does not know how to plan his future will eventually fail		0.40			
Young people are impulsive and unreliable		0.39			0.38
Harsh laws can make people obey		0.38			

(continued)

Table 1 (continued)

<i>Item</i>	Factor 1: Social Cynicism	Factor 2: Reward for Application	Factor 3: Social Complexity	Factor 4: Fate Control	Factor 5: Spirituality in Religiosity
One will succeed if he/she really tries		0.37			
Significant achievement requires one to show no concern for the means		0.37			
To deal with things in a flexible way leads to success			0.65		
Human behavior changes with the social context			0.54		
One's behaviors may be contrary to his or her true feelings			0.48		
Most people hope to be repaid after they help others			0.43		
Individual effort makes little difference in the outcome			0.42		
One has to deal with matters according to the specific circumstances			0.42		
Mutual tolerance can lead to satisfactory human relationships			0.40	0.34	
Current losses are not necessarily bad for one's long-term future			0.37		
People may have opposite behavior on different occasions			0.36		
To care about societal affairs only brings trouble for yourself			0.32		
To plan for possible mistakes will result in fewer obstacles			0.32		
Most disasters can be predicted				0.55	
There are many ways for people to predict what will happen in the future				0.54	
Failure is the beginning of success				0.42	

(continued)

Table 1 (continued)

<i>Item</i>	Factor 1: Social Cynicism	Factor 2: Reward for Application	Factor 3: Social Complexity	Factor 4: Fate Control	Factor 5: Spirituality in Religiosity
All things in the universe have been determined				0.40	0.38
Good luck follows if one survives a disaster				0.38	0.32
Fate determines one's successes and failures				0.35	
Individual characteristics, such as appearance and birthday, affect one's fate				0.33	
There are certain ways to help improve luck and avoid unlucky things				0.31	
Beliefs in a religion helps one understand the meaning of life					0.70
There is a supreme being controlling the universe					0.69
Religious faith contributes to good mental health					0.65
Beliefs in a religion makes people good citizens		0.38			0.49
Religion makes people escape from reality					0.47
Religious people are more likely to maintain moral standards		0.35			0.47
There are phenomena in the world that cannot be explained by science					0.43
The just will eventually defeat the wicked					0.41
Religious beliefs lead to unscientific thinking					0.40
Good deeds will be rewarded, and bad deeds will be punished		0.32			0.37
To experience various life styles is a way to enjoy life					0.34

Note: The factors are presented in the same order as in Leung and Bond research (Leung & Bond, 2004). In Italian culture the variances accounted for by these five factors are 6.86 (Social Cynicism), 6.43 (Religiosity), 5.54 (Reward for Application), 4.84 (Social Complexity), and 4.67 (Fate Control).

for Application, Social Complexity, Fate Control, and Religiosity were: $\chi^2 = 182.35$ ($p < .001$); $df = 54$; $\chi^2/df = 3.37$; *GFI*, Goodness of Fit Index = .98; *AGFI*, Adjusted Goodness of Fit Index = .96; *CFI*, Comparative Fit Index = .97; *RMR*, Root Mean squared Residue = .08. The fit indexes all point to a good fit between the five-factor model and the data, suggesting that the items representing the dimensions of the original five-factor model are reliable in Italian culture structure.

Factor Replicability

A more stringent test carried at the items level, Procrustes rotation, was used to check the results of the CFA. The template used for the target rotation was the 60-item structure reported in Leung et al. (2002). The Procrustes rotation was obtained by rotating the factor structure towards the common structure identified by Leung et al. (2002). Congruence coefficients were then calculated between the corresponding factors. For near-perfect congruence, coefficient at 0.90 and higher was expected. For 30 items the coefficients obtained were below these values. However, for the purpose of the present study, we are looking for the degree of factor similarity rather than for perfect item congruence.

The results of the Procrustes rotation showed that congruence coefficients were respectively: 0.79 for *Social Cynicism* and 0.72 for *Reward for Application* (with congruence higher than 99% of rotations from random data); 0.65 for *Social Complexity* and 0.56 for *Fate Control* (with congruence higher than 95% of Procrustes rotations from random data); *Religiosity* congruence coefficient was not significant. We suppose that some items representing this last dimension assume emic meaning in the Italian context. Only some item loadings deviate from the original pan-cultural structure. Future research can verify this aspect.

Reliability of the SAS-I Dimensions

SAS-I reliability was also verified. Cronbach's alphas and average item-whole correlations were as follows: *Social Cynicism* $\alpha = .76$ (average item-whole correlation = 0.39); *Reward for Application* $\alpha = .69$ (average item-whole correlation .37); *Social Complexity* $\alpha = .68$ (average item-whole correlation .35), *Fate Control* $\alpha = .53$ (average item-whole correlation .33) and *Religiosity* $\alpha = .50$ (average item-whole correlation = .48). There was no negative item-whole correlation. Although the alphas are marginal for *Fate Control* and *Religiosity*, all items in each factor were retained in the early stages of this research project for theoretical robustness and continuity across studies.

Gender effects were also assessed with this data set. In ANOVA Variance analysis between male and female of SAS dimensions, only one significant difference emerged in the factor *Reward for Application*: male mean = 41.62 SD = 6.34 versus female mean = 40.18 SD = 6.13.

Section 2

The five factors, identified in Section 1, seem to have clear implications for behavior and are consistent with a functionalist approach to social axioms. This second section was designed to assess the emic meaning of such dimensions in the Italian culture, in particular for *Religiosity*. We hypothesized a particular emic meaning for this factor in Italian culture. In particular the relationship between SAS-I and coping style and SAS-I and moral development was studied. We expected some particular correlations between SAS-I and Coping Style dimensions and no correlation between SAS-I dimensions and Moral Development stages. The introduction of these scales is to support the discriminant validity of our findings. The rationale for our expectations was that convergent validity will be confirmed by some correlations between SAS and Coping Scale and divergent validity will be confirmed by no correlations between SAS and Moral dimensions. In particular the rationale was (a) that *emic* meaning relationship (specific cultural relationship) can be found between SAS-I and active coping dimensions; and (b) that for the different theoretical *etic* meaning of SAS and PMJS constructs, no correlation can be found between SAS-I dimensions and moral judgement development stages.

Participants and Procedure

In Section 2, two subsamples were used: one of 90 participants (45 males and 45 females) and one of 70 participants (35 males and 35 females). Their participation in the study was voluntary. The average age of both samples was 24.67 (SD = 12.95).

Method

Given that five dimensions of social axioms had been identified in Section 1, two instruments were used to analyze the data: Coping Style Scale (CSS, Comunian, 2003) and Padua Moral Judgment Scale (PMJS, Comunian, 2002, 2004a).

Hierarchical linear regression analysis was conducted separately first between SAS-I and CSS dimensions and then between SAS-I dimensions and the stages of PMJS.

Coping Style Scale

The Coping Style Scale (CSS; Comunian, 2003, 2004b, 2005c) is based on the theoretical construct of active and passive coping style derived from Lazarus (Folkman & Lazarus, 1988; Lazarus, 1966) and Endler (Endler & Parker, 1990;

Schwarzer & Schwarzer, 1996). The CSS is composed of four factors: *Relational Coping*, *Defensive Coping*, *Rational Coping*, and *Emotional Coping*. *Relational Coping* is defined as an active coping style based on intrapersonal and interpersonal resources. *Rational Coping* is defined as an active coping style based on rational control of one's own resources and self-regulation. It is "other-oriented," consisting of values related to the importance of the relation, considering others and protecting one's relationships with others. *Defensive Coping* is a passive coping style based on the need of maintaining exclusively harmonious relationships. It is based on various defense mechanisms that lay importance on outcomes that benefit oneself, such as power and wealth. *Emotional Coping* is a passive coping style based on different defense mechanisms. It is "stimulus-oriented," containing values which emphasize stimulation and emotion. As can be noted, these four coping styles are somewhat different from Folkman and Lazarus (1988) five coping styles (anger withdrawal, dependency, adapting, distancing, and expanding thoughts and actions). The CSS is composed of 32 items. Each item was scored on a four-point scale, with labels ranging from "never use it" to "always use it." The reliability of the four scales in Italian culture is as follows: *Rational Coping* $\alpha = .69$; *Defensive Coping* $\alpha = .72$; *Relational Coping* $\alpha = .74$; *Emotional Coping* $\alpha = .74$.

Padua Moral Judgment Development Scale

The Padua Moral Judgment Development Scale (Comunian, 2002, 2004a, 2005a, b; Comunian & Gielen, 1996) is based on Kohlberg's theory on the development of moral judgment. Kohlberg contended that the process of constructing meaning follows a universal sequence, cross-culturally identifiable, of six stages of moral judgment development and maturity (Kohlberg, 1976, 1984). The Padua Scale of Moral Judgment was constructed from the responses to the Sociomoral Reflection Measure-Short Form questionnaire (SRM-SF—Gibbs, Basinger, & Fuller, 1992).

Stages 1 and 2 represent immature or superficial moral judgment. When reasoning in terms of Stage 1, the individual does not understand the moral reasons for rules and finds it difficult to think in terms of reciprocity. When reasoning in terms of Stage 2, individuals have trouble understanding the idea of mutuality in a relationship. They also tend to be self-centered. Stages 3 and 4, representing mature forms of moral judgment, are said to define the cognitive-structural norms for most cultures. Stage 3 thinking entails caring about the mutuality of relationships and the preciousness of human life. At times, Stage 3 thinkers can care so much about what others think of them that they turn into "moral marshmallows" in difficult situations. Stage 4 thinking entails appeals to rights and responsibilities as the basis for an ideal society. Stage 4 conceptions of societal morality expand, rather than replace, Stage 3 conceptions of interpersonal morality. Mature or profound moral understanding pertains to a broad spectrum of culturally pervasive moral norms and values, such as telling the truth, refraining from stealing, helping others, and saving lives.

Reliability and validity of the new scale as well as age and sex differences were examined. The factor structure obtained is stable and replicable in various samples

(Comunian, 2002; Comunian & Gielen, 2006; Comunian & Ronconi, 2007). The final form of the new scale, the Padua Scale of Moral Judgment, has 28 items grouped into four parts, each composed of seven items. Each of the seven items represents a stage or a mixed stage in the development of moral judgment. Under each group of seven items, there are two questions with open-ended answers, through which the subject is invited to indicate the number of items he/she agrees with most and the number of items he/she agrees with least, among the seven preceding items. For each item, participants responded to a 4-point frequency scale ranging from 1, "not at all," to 4, "very much." Some sample items are as follows: "You keep promises to friends because otherwise you may lose them" (Stage 1); "You help your parents because children must do what their parents tell them" (Stage 1/2); "You do not take other people's things because if you steal from others, they may steal from you" (Stage 2); "You tell the truth because otherwise you might regret it and feel bad" (Stage 2/3); "You keep promises to friends because friendship ought to be sincere" (Stage 3); "You abide by the law because laws promote harmony and justice" (Stage 3/4); and, "You tell the truth because it is a principle which governs relationships between people in society" (Stage 4). The scale has acceptable validity and reliability.

Results

Coping Style

The results of a hierarchical linear regression analysis revealed that: (a) *Social Cynicism* predicted *Defensive Coping* ($F(1, 89) = 2.76, p < .004$). Respondents tended to distance themselves when facing difficulties if they had strong emotional defences. In addition, they tended to think defensively and unrealistically when facing difficulties, if they had adopted more cynical social beliefs. (b) *Religiosity* predicted active *Rational Coping* ($F(1,89) = 1.19, p < .07$). No meaningful indices were found for the relationship between the *Coping Style* dimensions and *Reward for Application*, *Social Complexity*, and *Fate Control*. In future research, we will examine the SAS-I structure in a larger sample with the use of multiple regression analysis. Such research can also verify if the axiom dimensions work in the same way for each gender in predicting the various outcomes. In the present study gender effects were assessed with this research data set. In ANOVA variance analysis of Coping Scale between male and female results only one significant difference emerged in *Rational Coping*: male mean = 14.42, SD = 2.82 versus female mean = 13.54, SD = 2.61, $p < .002$.

Moral Judgment Development

As expected, hierarchical linear regression analysis on SAS-I and PMJD dimensions showed no significant relations between Social Axioms dimensions and

stages of Moral Judgement Development. In ANOVA Variance Analysis between male and female in PMJS stages differences not emerged.

In future research larger samples and cross-cultural comparisons will examine etic and emic meanings of SAS-I dimensions and PMJD stages in particular in relation to gender and age as a potentially relevant variable related to cultural difference.

Discussion and Conclusion

From the analyses at the item and subscale levels, we have come to the conclusion that there are four common factors that are identifiable in Italian culture, just as in other cultures (Leung & Bond, 2004). These are: *Social Cynicism*, *Reward for Application*, *Social Complexity*, and *Fate Control*. The first four factors identified are likely to be cross-cultural dimensions that may be used to classify individuals in any culture and to compare individuals within and across cultures. The *Religiosity* dimension seems to present some particular emic meaning in Italian culture. Future analyses and cross-cultural comparisons can lead to a more comprehensive Italian measure of Social Axioms, including the original five dimensions. The *Religiosity* dimension is related to a variety of personal and social behaviors reflecting the Italian cultural and historical legacy in a distinctive way. Leung and Bond have treated research data at the culture-level, but they have also elaborated a new network for social axioms for individual-level research (Leung & Bond, 2004). Individual-level factors are identified within only one cultural group and can be identified as constituted in metrically equivalent ways across many cultural groups. These individual-level factors are also linked within the nomological network of other personality constructs and their consequences in social interactions and life outcomes. More and different types of etic, emic, and social indicators are needed, along with measures of change across both short and long periods.

Researchers have tended to focus on measures of psychological processes, such as self-esteem, values, even personality itself, when doing culture-level research. As Bond (2005) underlines that there are other ways to understand cultures scientifically, in particular any scientific analysis of cultural functioning needs behavioral “building blocks” to help construct a complete picture of the “cultural edifice.” Culture-level factors characterize cross-cultural research, but even when approaching culture psychologically, a much more behavioral focus may be taken into consideration.

The present study represents the first step in this research in Italy. The initial step in developing an Italian framework of social axioms is confirmed to uncover the basic four dimensions at the individual level that are used to characterize these social axioms (Section 1). About the relationships between social axioms respectively with coping style dimensions and moral development stages in Italian culture discriminant validity was confirmed (Section 2). As expected, we have found a specific relation between the SAS-I religiosity dimension and CSS active coping style and no correlation between SAS-I dimensions and moral judgment development

stages. In Italian culture, the *Religiosity* dimension predicted active *Rational Coping*. This result is interesting and it needs to be studied further from both emic and etic points of view. No significant correlations between Social Axioms dimensions and stages of Moral Judgement Development emerged. It is confirmed that SAS-I dimensions and Padua Moral Judgement Development Stages are respectively a measure of two theoretically different psychological constructs.

In future research we can explore the question whether all the five dimensions of the original form of SAS can be represented also in the SAS-I. A number of new items can be administered together with core items. As Leung et al. (2002) and Bond (2005) propose, we could examine also additional dimensions on interpersonal relationships, which include beliefs about the causes of interpersonal harmony and conflict because the function of the social axioms is to guide behavior. Thus, we can expect additional dimensions, related to a variety of social behaviors. For instance, in Italy, religiosity may be related to altruistic behavior and to reward for application and social complexity. On the other hand, reward for application may be related to various types of personal performance, and social complexity may be related to various behavior choices. One other aim for future Italian research will be also to examine how social axioms may help explain social behavior in conjunction with other personality constructs. On the whole, however, it can be asserted that both at individual and national level social axioms (see also Keung & Leung, Bond, et al. 2002) seem to offer a valuable new way to explore research topics within the domain of cultural and cross-cultural research.

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Social Axioms and Individualistic–Collectivist Orientations in Indian College Students

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Abstract Leung et al. (2002) have identified five dimensions of social axioms about the world in which each individual functions, though the structure of these beliefs varies somewhat from culture to culture. These five dimensions are social cynicism, reward for application, social complexity, fate control, and religiosity. The present study explores the pattern of social axioms in students of a collectivist society, namely, India, and compares the relationship of the axiom dimensions with individualistic–collectivist orientations. Male and female students ($N = 172$) from two different regions of Eastern India completed the Social Axioms Survey and the Horizontal–Vertical Individualism–Collectivism Scale. The findings reveal that reward for application is the strongest belief for this group of students. Hierarchical regression analyses indicated that horizontal–vertical collectivism and horizontal individualism of students can be efficiently predicted by one’s general belief in reward for application. Multivariate analysis of variance (MANOVA) results indicated a significant main effect of gender on fate control. Regional variation and one’s position in a caste system also affect one’s endorsement of social axioms. Although considerable convergence of some of the dimensions of social axioms with individualism–collectivism values was observed, distinctiveness of the constructs is also clear from the results, which need further examination in diverse Indian communities across the generations.

Culture is a complex concept embedded in many aspects of our life. Values and beliefs are used in interpreting culture in studies using cultural dimensions. Hofstede (2001) defined culture “as the collective programming of the mind that distinguishes the members of one group or category of people from another” (p. 9). He referred to “mind” as involving head, heart, and hand, thus including thinking, feeling, and acting with consequences for beliefs, attitudes, and skills. Hence, people within one culture share similar languages, beliefs, values, and norms even though individual differences are still observed within one culture. India is a culturally

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and linguistically diverse country where people of many religions, castes, creeds, and tribes live together. But they share some common beliefs, values, and norms, helping them to identify themselves as members of that society.

Beliefs vary in specificity, but some beliefs are general in nature and context-free. Leung et al. (2002) coined the term “social axiom” for these generalized beliefs and these social axioms generate outcome expectations for different social actions and behaviors. Based on their study in 40 countries/regions Leung et al. (2002) have identified a pan-cultural set of five dimensions of social axioms at the individual level: social cynicism, reward for application, social complexity, fate control, and religiosity. (1) Social cynicism refers to a negative view of human nature and mistrust of social institutions, (2) reward for application indicates the view that careful planning and effort will lead to positive outcomes, (3) social complexity indicates that a person believes that there are multiple ways to solve social problems and the outcome of events is uncertain, (4) fate control is a general belief which states that social events are influenced by impersonal, external forces, but they can be altered by active intervention, and (5) religiosity refers to the view that there are spiritual forces which influence the human world and that religious institutions exert a positive effect on social outcomes. These social axioms are recognizable in people of diverse cultural groups and are structured in a similar way. But differences within a culture are noticeable as a result of one’s socialization experiences centering around age, gender, social class, religion, educational level, etc.

The cultural dimension of individualism–collectivism has often been used to explain cross-cultural similarities and differences. Triandis (1995) explained the individualist cultural pattern as emphasizing behaviors like self-reliance, independence, personal control, and personal achievement, whereas the collectivist cultural pattern emphasizes behaviors like interdependence, family integrity, security, obedience, and conformity. The literature suggests that they are independent dimensions.

Hofstede’s (2001) index for individualism indicates India’s rank as 21 and its score as 48 compared to 91 for the United States. So, Hofstede labeled India as a collectivist culture. Subsequent studies (Ghosh, 2003; Mishra, 1994; Sinha & Tripathi, 1994; Sinha, Sinha, Verma, & Sinha, 2001) indicated that both individualistic and collectivistic patterns of behavior are found to coexist in this culture. It is also found that Indian selfhood is so constituted that the typical Indian way of responding and reacting is mostly “context-related.” Values occupy a high place in the cognitive-emotional structure of an average Indian, but in actual practice, they seem to be conditioned by the exigencies of the situation.

Triandis (1995) classified individualism (I) and collectivism(C) into four types incorporating horizontal (H) and vertical (V) aspects. The horizontal aspect emphasizes equality whereas the vertical emphasizes hierarchy. Thus, horizontal individualism (HI) characterizes people who want to be unique, independent, and self-reliant, but vertical individualism (VI) people are competitive and want to achieve status and distinction. On the other hand, horizontal collectivism (HC) people perceive themselves as similar to others, emphasizing common goals but at the same time do not submit to authority easily, whereas vertical collectivism (VC) people emphasize maintaining the integrity of their in-groups, sacrificing personal goals for in-group goals and submitting to authority.

Schwartz's (1992) theory of values consisting of ten value domains reflects these different orientations of individualism–collectivism. For instance, self-direction, stimulation, achievement, and power values reflect an individualistic orientation whereas tradition, conformity, security, universalism, and benevolence values reflect a collectivist orientation.

Research has been carried out to find out the effects of both social axiom and values on different outcomes like adaptation of immigrants in Israel (Kurman & Ronen-Eilon, 2004), vocational choices, methods of conflict resolution, and coping styles in Chinese undergraduate students (Bond, Leung, Au, Tong, & Chemonges-Nelson, 2004) and the relationship of social axioms with values in different cultural groups (Leung, Au, Huang, Kurman, Niit, & Niit, 2007). But studies dealing with social axioms and individualism–collectivism values are rare (Chen, Fok, Bond, & Matsumoto, 2006) and nonexistent in the Indian context.

Indians have a tendency to change their mindset to survive in changing situations. A variety of diverse values, beliefs, and norms exist in the mindset of Indians and they can shift these depending upon the situation. In a collectivist society like India, the social conditions are changing rapidly with observable results in the values and beliefs of the younger generation. We therefore want to study empirically how these individualistic and collectivist orientations would be important for explaining the social axioms of student population of India, which reflect their physical, social, and spiritual world and its functioning.

Research Questions

In this study, we tried to explore two research questions: the relationship between axiom dimensions and individualistic–collectivist orientations and the effects of different demographic variables like gender, regional variation (geographical location), caste, and socio-economic class on social axioms. These questions are important because general beliefs or social axioms regulate our behavior, and in a collectivist society like India, the impact of globalization and liberalization is visible in various spheres of people's lives, which may cause differences among distinct groups within the society.

Method

Participants

Participants were 172 undergraduate students selected from two geographical locations of Eastern India, viz. from the states of West Bengal and Tripura. These two states are more or less similar with respect to their political beliefs, customs, habits, and to some extent language. There were 92 students (50 males and 42 females)

from West Bengal and 80 students (32 males and 48 females) from Tripura. The majority (78.6%) of the students belonged to the age category of “20 years or less” and the rest were in the category of “21–30 years.”

Measures

The following two measures were administered to all the participants during class hours in their respective colleges:

- *Social Axioms Survey*—The 60-item Social Axioms Survey developed by Leung et al. (2002) was administered. A five-point scale with labels ranging from strongly believe, believe, through no opinion to disbelieve and strongly disbelieve was used. The questionnaire has five dimensions, namely, social cynicism (18 items), reward for application (14 items), social complexity (12 items), fate control (8 items), and religiosity (8 items).
- *Horizontal–Vertical Individualism–Collectivism scale*—The individualism–collectivism scale developed by Triandis and Gelfand (1998), based on the original scale of Singelis, Triandis, Bhawuk, and Gelfand (1995), was used. The scale has 16 items with four items measuring each of the four dimensions, namely, HI, VI, HC, and VC. Responses on the scale were anchored on a seven-point scale ranging from 1 (strongly disagree) to 7 (strongly agree).

Results

Means, standard deviations, and Cronbach alphas for all the dimensions of social axioms and individualism–collectivism were calculated. The values are presented in Table 1.

Table 1 Means, standard deviations, and reliability of the measures

Dimensions	Mean	Standard deviation	Alpha
Social axioms (60 items)			
Social cynicism	3.12	0.47	0.70
Reward for application	4.11	0.41	0.64
Social complexity	3.48	0.38	0.38
Fate control	2.89	0.59	0.52
Religiosity	3.20	0.65	0.64
Individualism–collectivism			
Horizontal individualism	6.01	0.96	0.64
Vertical individualism	5.33	1.00	0.48
Horizontal collectivism	5.67	0.85	0.53
Vertical collectivism	5.69	0.94	0.51

It is observed from Table 1 that the students scored higher in reward for application and social complexity dimensions of social axioms and the highest in HI and the lowest in VI of the individualistic–collectivist orientation. The alpha coefficients are not very high for all the dimensions of social axioms, especially for social complexity, though these reliabilities are comparable to the values reported by Leung and Bond (2004) and Leung et al. (2007). Therefore, some items having low item–total correlations were dropped to enhance the internal consistency of the dimensions, and subsequent analyses were conducted with 43 items: social cynicism (14 items), reward for application (9 items), social complexity (6 items), fate control (7 items), and religiosity (7 items).

Social Axioms and Individualistic–Collectivist Orientations

To find out the relationships between social axiom dimensions and horizontal–vertical individualistic–collectivist orientations, correlation coefficients were computed. Means, standard deviations, and alpha coefficients were also calculated for the reduced version of the questionnaire and the results are presented in Table 2.

Social cynicism was found to be significantly and positively related to both horizontal and vertical aspects of individualism. This indicates that the students who are socially cynical, i.e., those who take a negative view of human nature and have a disregard for ethical means, want to be unique and compete with others for distinction and status. Bond et al. (2004) observed a strong relationship between social cynicism and self-enhancement values in undergraduate students of Hong Kong, Chen et al. (2006) also found a positive relationship between social cynicism and VI. Leung et al. (2007) observed significant positive relationship of social cynicism with the power value across five cultural groups. Rupf and Boehnke (2003) noted a significant relationship between social cynicism and hierarchic self-interest. These studies indicate that individuals, who emphasize hierarchy and want self-enhancement both in individualistic and collectivist cultures, generally take a cynical world view.

Table 2 Mean, SD, alpha, and correlation coefficients of social axioms (43 items) with horizontal and vertical aspects of individualism and collectivism

Dimensions	Social cynicism	Reward for application	Social complexity	Fate control	Religiosity
HI	0.21**	0.25**	-0.03	0.10	-0.04
VI	0.23**	0.16*	0.07	0.21**	0.02
HC	0.09	0.18*	0.12	0.04	-0.18*
VC	0.01	0.27**	0.01	0.07	0.04
Mean	3.24	4.12	3.80	2.86	3.80
SD	0.55	0.46	0.51	0.64	0.51
Alpha	0.73	0.66	0.41	0.61	0.68

Note: * $p < .05$, ** $p < .01$.

Reward for application was found to be positively and significantly related to both horizontal–vertical aspects of individualistic and collectivist orientations. This surprising result suggests that persons endorsing any cultural orientation believe that investment of resources in tackling a problem will lead to success.

Fate control was found to have a significant positive association with VI, indicating that the students who want distinction and status believe in control by external forces as well as the likelihood of altering these external forces.

Interestingly, religiosity was found to have a significant negative correlation with HC, which may be due to the fact that the long time continuance of democratically elected leftist Government in these two states may be reflected in the beliefs and values of this younger generation of students.

Predictive Power of Social Axioms

Next, we wanted to know the predictive power of social axioms for explaining an individualistic–collectivist orientation of students. Accordingly, hierarchical regression analysis was conducted separately for horizontal and vertical individualistic–collectivist orientations. The results are presented in Table 3.

The results indicate that reward for application entered in the first step to predict horizontal individualistic orientation and in the next step social cynicism entered. Social cynicism was also observed to be the most significant predictor for VI. For predicting horizontal and vertical aspects of the collectivist orientation, reward for application was also found to be the most significant predictor. Interestingly, religiosity was found to have negative contribution for predicting HC.

Association of Demographic Variables with Social Axioms

Leung et al. (2002) suggested that social axioms may vary with respect to one's gender, culture, religion, social class, education, etc. To evaluate the effects of some of these demographic variables in the present study, multivariate analysis of

Table 3 Results of hierarchical regression analysis

Dependent variable	Predictor	Beta	R ²	Adj. R ²	R ² change	F
HI Step 1	Reward for application	0.25	0.06	0.05	0.06	11.74**
Step 2	Social cynicism	0.17	0.09	0.08	0.03	5.44*
VI Step 1	Social cynicism	0.23	0.05	0.05	0.05	9.32**
HC Step1	Reward for application	0.18	0.03	0.03	0.03	5.83*
Step 2	Religiosity	-0.19	0.07	0.06	0.04	6.78**
VC Step 1	Reward for application	0.27	0.07	0.06	0.07	13.04**

Note: * $p < .05$, ** $p < .01$.

variance (MANOVA) was conducted by taking all the five dimensions of social axioms as dependent variables and gender and location (regional variation) as independent variables.

The results showed a significant main effect of gender on social axioms, Wilk's Lambda = .91, $F(1, 164) = 3.08, p < .01$. Univariate tests revealed significant locational differences with respect to reward for application, $F(1, 168) = 8.77, p < .004$. Students of West Bengal had a higher belief (Mean = 4.22; SD = .45) in reward for application than the students of Tripura (Mean = 4.00; SD = .45). Male and female students were also found to differ significantly with respect to fate control ($F[1, 168] = 13.18, p < .001$), with female students showing a stronger belief (Mean = 3.00; SD = .63) than male students (Mean = 2.68; SD = .60). An interaction effect of gender \times location was observed with respect to fate control, which is shown graphically in Figure 1.

In India, a hierarchical caste structure prevails in many places and governs one's behaviors and actions. The central Government of India has classified its citizens into three categories of caste based on their social and economic conditions, namely (a) upper caste, (b) scheduled caste and other backward classes, and (c) scheduled tribe (ST).

MANOVA was computed to see the effect of this caste on one's social axioms. Wilk's Lambda was observed to be .89 with $F(2, 169) = 2.06, p < .05$. Univariate tests showed significant effects of one's caste position on reward for application, $F(2, 169) = 3.18, p < .05$, and fate control $F(2, 169) = 3.73, p < .05$. This result indicates that students of upper caste were found to have a stronger belief in reward for application (Mean = 4.17, SD = .41) than students of the other two castes (Mean[scheduled and backward class] = 3.93, SD = .52; Mean[ST] = 4.11, SD = .52). On the other hand, ST students were found to have a stronger general belief in fate control (Mean = 3.12, SD = .60) than upper caste (Mean = 2.83, SD = .63) and backward and scheduled caste students (Mean = 2.69, SD = .62).

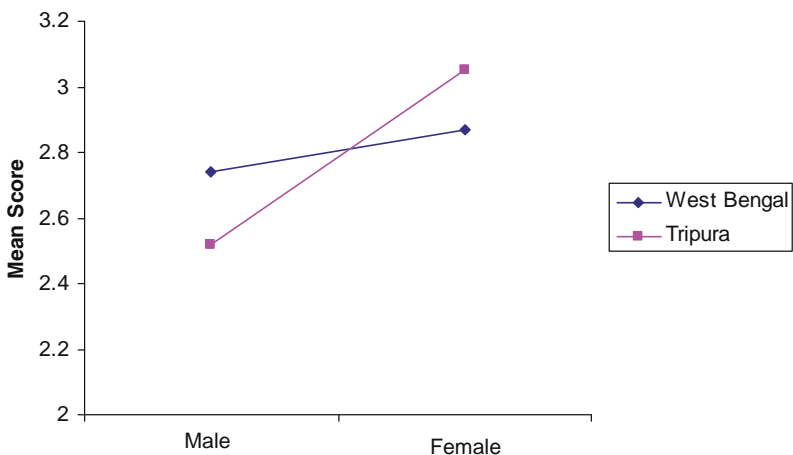


Fig. 1 Interaction effect of location and gender on fate control

On the whole, the findings suggest that even in a homogeneous student sample, caste structure prevailing in a society impacted on one's social axioms.

Discussion

The study examined the pattern of social axioms and their relationships with individualistic–collectivist orientations in undergraduate students from two different geographical locations of Eastern India. The findings revealed some significant positive relationships between social axioms and individualism–collectivism values. Hierarchical regression analyses showed that one's psychological orientation regarding HI–VI can be predicted by one's social cynicism. This suggests that individuals with a cynical view about human nature want independence, distinction, status, and also want to be self-reliant and competitive. Perhaps cynical people tend not to trust others, and that is why they want to be independent of others. Their preference for high status may reflect their worry of exploitation by others, because status may protect one from exploitation.

It was also observed that reward for application can predict HC–VC orientations. This indicates that individuals who value obedience, conformity, and commitment to an in-group believe in hard work and effort. Leung et al. (2007) also observed a positive relationship between reward for application and conformity value in participants of five cultural groups. Reward for application can predict HI as well which suggests that belief in hard work and planning is required for being self-reliant and independent. It is interesting that reward for application is related to both individualism and collectivism, and one explanation is that being independent and being group-oriented both require active exertion of effort.

Social complexity did not correlate significantly with any of the dimensions of individualism–collectivism. The reliability of this dimension is also not very high and thus needs further exploration.

Fate control was related significantly to VI, indicating that individuals who value hierarchy and want to be unique and competitive believe that life events are fated.

Religiosity is found to have a significant negative correlation with HC, which is contradictory to the earlier findings of Leung et al. (2007), where they observed positive correlations with conservatism values. One possible explanation of this finding may be that for historical reasons people of these regions have been influenced by Marxist and modern scientific ideas and observed leftist rule in their respective states from childhood, which may have impacted on their religiosity beliefs.

Our findings indicate the significant effect of gender and regional (geographical) variation on different dimensions of social axioms. Although the target groups of the study are more or less homogeneous in nature, but male and female students still differed with respect to their beliefs regarding fate control. Females believe that life events are influenced by fate more than do males. Students from two different

locations also differed with respect to their beliefs regarding reward for application. Students of West Bengal believe more that effort and careful planning can solve challenges of life than the students of Tripura. This may be due to the fact that West Bengal is a densely populated and more industrially developed state than Tripura. As such people of Tripura do not have much opportunity for development whereas people of West Bengal have to struggle, exert effort, and compete for survival.

In the Indian cultural tradition, one's caste position plays a determining role in his/her social functioning. In this study, we observed that upper caste students' belief in reward for application as a survival strategy is higher than the scheduled/backward class and ST students. On the other hand, ST students believe more in fate than the students of the other two castes. This may be explained by the less favorable conditions of these tribal people than the people of other castes.

Overall, the findings of the study revealed some overlap between the dimensions of social axioms and individualism–collectivism values, but weak relationships were also observed, which indicate the distinctiveness of the constructs. Future studies can be done on diverse samples of different communities from varied geographical locations of India to further confirm the present findings and to have a deeper understanding of how social axioms guide social behavior and functioning of transitional urban Indian populations.

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Explaining Individuating Behavior Across Cultures: The Contributions of Values and Social Axioms

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Abstract Two studies examined individuation, a behavioral style that reflects the need to present the self as unique and independent and the willingness to differentiate oneself from others publicly. Study 1 consisted of two samples: Mainland Chinese and Hong Kong Chinese. A set of personal and cultural variables, including modernity and traditionality, self-esteem, self-efficacy, independent and interdependent self-construals, were tested for their relations with individuating behavior. Self-esteem, self-efficacy, and traditionality (negative) significantly predicted individuation across these two Chinese contexts. Study 2 consisted of three samples: Mainland Chinese, Hong Kong Chinese, and Canadians. Values and social axioms were added to the explanatory framework. Above and beyond the significant effects for self-efficacy and independence, the value factor of Conservation and the axiom dimension of Social Cynicism negatively predicted individuating behavior across both Chinese and Western cultural groups. Gender differences in individuation were found, with Canadian males scoring higher than their female counterparts. Cultural differences were more complex: Mainland Chinese reported more individuation than Hong Kong Chinese and Canadians. By comparing the behavioral self-reports between individualistic and collectivist cultures, the present research illuminated the role of culture in shaping individuals' relational styles and demonstrated the contributions of values and social axioms in explaining social behavior.

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Explaining and predicting social behavior across cultures has been an important research question in personality and social psychology, and continues to be a major focus in cross-cultural research. Attempts have been made to predict behavioral outcomes using relevant personality constructs, such as traits, attitudes, and values. These constructs alone, however, have not emerged as strong predictors for social behavior (e.g., Fishbein & Ajzen, 1975; Mischel, 1968). Values represent what is important and desirable in one's life, defined by Schwartz (1994) as "desirable goals, varying in importance, that serve as guiding principles in people's lives" (p. 88). Personality traits, as measured by most personality inventories such as the Big Five model of personality (Costa & McCrae, 1985, 1992), reflect self-views, which are perceived by the self when an individual evaluates his or her own attributes and qualities.

Social behavior, however, is not merely a straightforward outcome originating from personal valence to desirable goals, but shaped by multiple forces in the individual's personal, social, and cultural environment. Behavioral outcomes are not only determined by self-views and values, but also influenced by world-views, i.e., how individuals perceive the world around them. Both beliefs about oneself and beliefs about the world are important to explain and predict the social behavior.

In cross-cultural research, by and large, previous multicultural studies have used a value-based approach to map nations and cultural groups, such as Hofstede's (1980) work-related values, Schwartz's (1994) culture-level values, and the cultural dimensions proposed by Inglehart and Baker (2000). To further capture cultural variations and account for social behavior, Leung et al. (2002) have proposed the use of beliefs about the world and coined the construct "social axioms," recently refined by Leung and Bond (2008) as

generalized beliefs about people, social groups, social institutions, the physical environment, or the spiritual world as well as about categories of events and phenomena in the social world. These generalized beliefs are encoded in the form of an assertion about the relationship between two entities or concepts. (p. 198)

Over the years, Leung and Bond (2004) have conducted multicultural studies in 40 cultures and identified two dimensions at the culture level (Bond, Leung, Au, Tong, & Chemonges-Nielson, 2004a), namely Societal Cynicism and Dynamic Externality, as well as five dimensions at the individual level, namely Social Cynicism, Reward for Application, Social Complexity, Fate Control, and Religiosity (initially named Spirituality) (Leung et al., 2002; Leung & Bond, 2004). Researchers around the world have validated the pan-cultural factor structure (e.g., Cheung, Leung, & Au, 2006; Leung & Bond, 2008), and demonstrated the functional utility of social axioms using within-culture and cross-cultural designs (e.g., Bond et al., 2004a; Keung & Bond, 2002; Kurman & Ronen-Eilon, 2004; Singelis, Hubbard, Her, & An, 2003). This edited volume shows more recent advancement in research on the factor structure, transmission, and nomological network for social axioms in different cultures.

The present chapter consists of two empirical studies conducted in Mainland China, Hong Kong, and Canada. Adopting the framework of using values, self-views,

and worldviews to explain and predict social behavior in cultural contexts, these studies are built upon and yet extend the previous work on social axioms.

Following Bond et al.'s (2004a) approach of combining social axioms with values to predict psychological outcomes, we examined the additive power of values and social axioms in predicting social behavior, anticipating that additional constructs can be identified to complement the dominant perspective of values in cross-cultural research. Decomposing the traditional Chinese construct filial piety into filial attitudes and behaviors, Chen, Bond, and Tang (2007) found that both values and social axioms made significant contributions toward explaining filial piety in different Chinese cultural contexts. Among the axioms, Reward for Application, Fate Control, and Social Cynicism (negative) predicted filial behaviors above and beyond filial attitudes. The present research continues to adopt the approach of combining social axioms with values. But, going beyond a communal behavior like filial piety, we explore an agentic behavior, individuation, in both Chinese and Western contexts, as it is driven by an individual's awareness of himself or herself as an active agent to make choices in the environment.

Individuation denotes a behavioral style that distinguishes oneself from others publicly (Maslach, Stapp, & Santee, 1985). It is a social behavior indicating "differentness" and "distinctiveness" relative to other people and objects, in hope of getting positive attention and acquiring status. Individuation was initially conceptualized as a set of actions designed to differentiate oneself in social situations (Maslach, 1974). In her group experiment, anticipated outcomes and prior experiences were found to modify participants' verbal and nonverbal behaviors. When the anticipated outcomes were positive, participants individuated themselves in an attempt to gain rewards, but when the outcomes were expected to be negative, participants deindividuated themselves to avoid punishment. This pattern was complicated by participants' prior levels of experienced uniqueness. When participants already felt unique, they displayed less individuating behavior, whereas prior feelings of anonymity induced participants to individuate themselves more.

Subsequently, individuation is assessed as an individual difference variable, referring to the willingness to present oneself as unique and independent (Maslach et al., 1985). Individuating behavior may be manifested in dressing differently, speaking up in groups, expressing different opinions, redirecting ongoing activities, and disagreeing with others or even criticizing others. The Individuation Scale was developed to measure self-disclosure and attention-getting behaviors. Individuation has been found to correlate positively with anticonformity, need for uniqueness (Snyder & Fromkin, 1977), and Self-Monitoring subscales such as extraversion and acting (Briggs, Cheek, & Buss, 1980; Snyder, 1974), but negatively with shyness (Cheek & Buss, 1981; Zimbardo, 1977) and social anxiety.

Individuation was thought to be a Western construct reflecting individualistic values, so Kwan, Bond, Boucher, Maslach, and Gan (2002) examined individuating behavior in Chinese contexts, and suggested that it constituted a more complex phenomenon in collectivist than in individualistic cultures. They argued for a two-factor model in the collectivist case, namely Taking the Lead and Seeking Attention. In their study, Taking the Lead was correlated with the personality traits

of Conscientiousness, Extraversion, and Neuroticism (negatively), and Seeking Attention was correlated with Extraversion and Openness to Experience, but neither of them was related to modernity or traditionality of attitudes.

Though previous studies have extended individuation from a situation-bound to culture-bound construct, for the most part, its nomological network was limited to personality correlates. Less is known about how cognitive forces influence this behavioral style, especially what factors drive an individual to present himself or herself distinctively. Given that individuation may be a goal-directed or value-expressing behavior, the present research seeks to explain the construct of individuation by using not only personal characteristics but also values and social axioms, so as to incorporate desirable goals, self-views, and worldviews in the conceptual framework. Two studies were conducted in individualistic and collectivist cultures. As an extension of Kwan et al. (2002), Study 1 examined individuation in relation to modernity and traditionality, self-esteem, self-efficacy, and self-construals in two collectivist cultural groups, Mainland China (Shanghai) and Hong Kong. Study 2 adopted the approach of combining values with social axioms to predict individuation in three cultural groups, Mainland China (Beijing), Hong Kong, and Canada. The data reported in this chapter are from a larger data set, upon which other publications that focus on different issues are based.

Study 1

The first study was conducted in two cultures, Shanghai and Hong Kong, both Chinese settings but characterized by two different socio-political systems. They share the same language system and similar customs yet differ in social and political conditions as well as economic development. Thus, this study started from a Chinese perspective to examine individuating behavior.

Modernity and Traditionality

Modernity and traditionality are closely related concepts extracted from an analysis of culture and embedded in cultural contexts. Yang (1996) reviewed the historical movements of China, and analyzed the psychological transformation of the Chinese people. He has concluded that the decrease of Chinese traditionality and increase of modernity have resulted from societal modernization characterized by a rise in individuation. As the traditionality concept captures social-oriented aspects and modernity focuses on individual-oriented needs, individuation would reasonably be assumed to be a component of a modern orientation.

According to Yang (1996), traditionality–modernity was originally assumed by proponents of classical modernization theory to be unidimensional and conceptualized as two polar opposites on the same continuum. However, the examination of individual responses to a carefully developed measure in Chinese culture has

revealed two orthogonal constructs, viz., modernity and traditionality. Therefore, they were treated as independent predictors in this study. Individuation was hypothesized to relate positively to modernity but negatively to traditionality.

Self-Esteem and Self-Efficacy

As a self-presenting strategy, individuating behavior is considered to reflect confident self-views, reflecting the belief in one's competence to create a favorable social image. In fact, Maslach et al. (1985) confirmed the positive relation between individuation and self-esteem with their American sample. If self-esteem represents an assessment of general self-worth (Rosenberg, 1965, 1979), then confident self-views should be manifested more in perceived self-efficacy, which denotes judgments of general personal capability (Bandura, 1977, 1992). Bandura (1997) maintained that there was no fixed relationship between beliefs about one's capabilities and feelings toward oneself. Thus, both self-esteem and self-efficacy were administered in this study. It was hypothesized that they would both relate to individuation positively.

Independence and Interdependence

Independent and interdependent self-construals are especially relevant to individuation, when we conceptualize it as a culture-bound construct. The independent self-view is concerned with expressing individual desires, preferences or abilities, and thus calls for strategies that assert internal attributes of the self, leading to self-enhancing behaviors (e.g., Heine, 2001). On the other hand, the interdependent self-view is concerned with sustaining relationships between the individual and others, and thus regulates overt behaviors by responding harmoniously to various interpersonal contingencies (e.g., Markus & Kitayama, 1991). This integrative concern places great emphasis on self-effacement, conforming to group norms and aligning with others. Hence, individuation was hypothesized to relate positively to independence but negatively to interdependence.

Method

Participants

A total of 392 university students participated on a voluntary basis. Of these, 204 (117 males and 87 females) were from Shanghai Jiaotong University, China, and 188 (86 males and 102 females) from Chinese University of Hong Kong. The mean

age was 19.81 (SD = 1.50) for Mainland Chinese and 19.56 (SD = 1.27) for Hong Kong Chinese.

Instruments

Participants in Mainland China and Hong Kong completed the following measures in simplified and traditional Chinese characters, respectively. The equivalence of meaning on all items was ensured through consultations with bilinguals from Mainland China and Hong Kong.

The Individuation Scale The Individuation Scale was developed by Maslach (1974) to assess the willingness to differentiate oneself from other people and objects. It is a 12-item, 5-point Likert scale ranging from 1 (*not at all willing to do this*) to 5 (*very much willing to do this*). A sample item is, "Speak up about your ideas even though you are uncertain of whether you are correct."

Multidimensional Scale of Chinese Individual Traditionality (MS-CIT) and Modernity (MS-CIM) Two scales were developed by Yang, Yu, and Yeh (1991) to measure the traditional and modern psychological characteristics during the process of societal modernization. There are five subscales in the MSCIT, viz., Submission to Authority, Filial Piety and Ancestral Worship, Passivity and Conservativeness, Fatalism and Protectionism, and Male Dominance, and five subscales in the MSCIM including Equalitarianism and Open-Mindedness, Social Isolation and Self-Reliance, Optimism and Assertiveness, Affective Hedonism, and Sex Equality. Each subscale includes 8 items, resulting in a total of 40 items in the MSCIT and MSCIM, respectively. Six-point Likert scales were used, ranging from 1 (*very strongly disagree*) to 6 (*very strongly agree*).

Rosenberg's Self-Esteem Scale Rosenberg's (1965) Self-Esteem Scale was used to assess overall orientation toward the self. It is composed of 10 items, anchored with a 4-point Likert scale ranging from 1 (*strongly agree*) to 4 (*strongly disagree*). Five of them were reversed items, included to minimize an acquiescent response set. The scale has been well validated and widely used as a global measure of self-regard. A sample item is, "On the whole, I am satisfied with myself." The scores were reversed, such that higher scores indicated higher self-esteem.

The General Self-Efficacy Scale A 10-item General Self-Efficacy Scale (Schwarzer & Jerusalem, 1995) was used to tap one's perceived competence. Responses were made on a 4-point Likert scale ranging from 1 (*strongly disagree*) to 4 (*strongly agree*). A sample item is, "I can always manage to solve difficult problems if I try hard enough."

Self-Construal Scale Designed by Gudykunst et al. (1996), this scale assesses independent and interdependent views of the self. Following a derived-etic analysis across five cultural groups, Gudykunst et al. identified 14 items measuring independence in culturally equivalent ways (e.g., "I try not to depend on others") and

15 items likewise identifying interdependence (e.g., “I consult with others before making important decisions”). Responses for both subscales were indicated on a 7-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*).

Procedure

The questionnaire sets were administered to participants for completion in private. They also reported demographic information including age, gender, year and major of study, affiliated university, religion, and parents’ education levels. Instructions were given at the beginning of sessions, and confidentiality was ensured to encourage honest responding.

Results and Discussion

The Individuation Scale

Descriptive statistics including means, standard deviations, and reliability coefficients of the measures are presented in Table 1. Each scale was examined for internal consistency in both the samples. Item #7 from the Modernity Scale, (“One does not have to spend too much time with family, as it is only part of one’s life”), and an item from Self-Esteem Scale (“I wish I could have more respect for myself”) had negative item-total correlations, indicating that these two items were not measuring their respective constructs in the same direction as were the other items in the scale. Thus, they were excluded from further analyses.

The factor structure of the scales was also evaluated. Exploratory factor analysis (EFA) was conducted. The scree plot of the Individuation Scale clearly suggested retention of one factor, whereas a two-factor solution derived from varimax rotation yielded some double loadings. Moreover, Cronbach’s alpha of the 12 items was 0.81 for Mainland China and 0.87 for Hong Kong, without any negative item-total correlations, indicating unidimensionality as well. The construct was therefore treated as unidimensional, as originally designed by Maslach (1974). Factor scores were computed for subsequent analyses based on equal weighting of the constituent items.

Likewise, the internal consistency of modernity and traditionality was high, with an alpha of 0.89 and 0.88 for Mainland China and 0.89 and 0.91 for Hong Kong, respectively. All items bore positive item-total correlations leading to the same direction (except #7 in Modernity Scale). If we used the five subscales for each construct, these two factors would result in a total of ten variables. In the interest of conceptual and statistical parsimony, they were subsequently analyzed as unidimensional and yet orthogonal constructs.

Table 1 Means, standard deviations, reliability coefficients, and intercorrelations for measures in Study 1

Measure	Mean	Standard deviation	1	2	3	4	5	6	7	
Mainland Chinese ($N = 204$)										
1. Individuation	3.04	0.61	0.81 ^a							
2. Modernity	4.41	0.57	0.15 [*]	0.89						
3. Traditionality	2.61	0.54	-0.05	-0.45 ^{***}	0.88					
4. Self-esteem	3.08	0.64	0.24 ^{***}	0.28 ^{***}	-0.23 ^{**}	0.81				
5. Self-efficacy	2.84	0.52	0.36 ^{***}	0.19 ^{**}	-0.18 [*]	0.43 ^{***}	0.87			
6. Independence	5.06	0.83	0.11	0.63 ^{***}	-0.19 ^{**}	0.33 ^{***}	0.26 ^{***}	0.84		
7. Interdependence	4.93	0.76	0.19 ^{**}	0.50 ^{***}	-0.17 [*]	0.18 [*]	0.15 [*]	0.57 ^{***}	0.82	
Hong Kong Chinese ($N = 188$)										
1. Individuation	2.87	0.61	0.87 ^a							
2. Modernity	4.47	0.46	0.13	0.89						
3. Traditionality	2.66	0.51	-0.26 ^{***}	-0.25 ^{***}	0.91					
4. Self-esteem	2.77	0.56	0.26 ^{***}	0.22 ^{**}	0.08	0.89				
5. Self-efficacy	2.44	0.50	0.37 ^{***}	0.22 ^{**}	0.00	0.32 ^{***}	0.89			
6. Independence	4.98	0.60	0.18 [*]	0.45 ^{***}	-0.05	0.28 ^{***}	0.34 ^{***}	0.75		
7. Interdependence	5.17	0.57	-0.02	0.18 [*]	-0.03	0.02	0.11	0.36 ^{***}	0.81	

Note: ^{*} $p < .05$; ^{**} $p < .01$; ^{***} $p < .001$.

^aThe reliability coefficients are found on the diagonal.

Gender and Cultural Differences

To test for gender and cultural differences in individuation, a 2 (gender) \times 2 (culture) analysis of variance (ANOVA) was conducted. The ANOVA indicated no significant gender \times culture interaction effect, $F(1, 388) = 0.25, p > .05$. The main effect for gender was not significant either, $F(1, 388) = 0.86, p > .05$, but the main effect for culture reached significance, $F(1, 388) = 6.70, p < .05$, with Mainland Chinese ($M = 3.04, SD = 0.61$) scoring significantly higher on individuation than their Hong Kong counterparts ($M = 2.87, SD = 0.61$).

Pearson correlation coefficients were computed for individuation and other variables under study (see also Table 1). In the Mainland Chinese sample, as predicted, individuation was positively correlated with modernity, $r_{(201)} = .15$, self-esteem, $r_{(201)} = .24$, and self-efficacy, $r_{(197)} = .36, p < .05$, but it was also correlated with interdependence positively, $r_{(199)} = .19, p < .01$. The demographic variables did not yield any significant effects. In the Hong Kong Chinese sample, as predicted, individuation was correlated with traditionality negatively, $r_{(186)} = -.26$, and with self-esteem, self-efficacy, and independence positively, $r_{(185)} = .26, .37, \text{ and } .18, p < .05$. Regarding demographic variables, it was negatively correlated with age, $r_{(185)} = -.16, p < .05$, with younger individuals more likely to individuate themselves than the older ones.

Predicting Individuation in Chinese Cultures

To identify common predictors of individuation across these Chinese contexts, hierarchical regression analysis was conducted with individuation as the criterion in the pooled data. Demographic variables including age, gender, and culture were entered into the first block. Block 2 contained modernity, traditionality, self-esteem, self-efficacy, and independent and interdependent self-construals. To check for multicollinearity, indices of tolerance (TOL) and variance inflation factor (VIF) from regression analysis were used. Multicollinearity may be present when tolerance values are smaller than 0.1 or VIF values are greater than 10.

The sample multiple correlation coefficient was 0.42, indicating that the regression model explained 17.8% of the total variance in individuation, $R^2 = .18, F(9, 383) = 9.20, p < .001$ (see Table 2). Multicollinearity was not indicated (TOL ranged from 0.55 to 0.98, VIF ranged from 1.03 to 1.84). Among the demographic variables, only the effect of age was significant, $p < .05$, with younger individuals more willing to individuate. A few predictors emerged significant, and traditionality was negatively related to individuation, $\beta = -.10, p < .05$. Self-esteem and self-efficacy positively predicted individuation, $\beta = .11 \text{ and } .33, \text{ respectively}, p < .05$.

For the most part, the findings in Study 1 support our conceptualization of individuation. Individuating behavior was positively correlated with self-esteem and self-efficacy in both cultural groups. Its positive correlations with modernity

Table 2 Hierarchical regression analysis for variables predicting individuation in Study 1 ($N = 392$)

Variable	Block 1 β	Block 2 β
Age	-0.08	-0.10*
Gender (0 = male, 1 = female)	-0.04	-0.02
Culture (1 = Hong Kong, 2 = Mainland China)	0.14**	0.01
Modernity		0.01
Traditionality		-0.10*
Self-esteem		0.11*
Self-efficacy		0.33***
Independence		-0.04
Interdependence		0.06
R^2	0.03	0.18
df	3/389	6/383
F change	3.50*	11.76***

Note: * $p < .05$; ** $p < .01$; *** $p < .001$.

and independence and negative correlations with traditionality were also confirmed in one of the groups, and the corresponding correlations, although not significant, were in the expected direction for the other group.

Our findings confirmed the positive association between self-esteem and individuation in collectivist cultural contexts, a finding which is consistent with the result of Maslach et al. (1985) in an individualistic culture. The concepts of self-esteem and self-efficacy are closely related and even used interchangeably at times, but, in fact, they represent different phenomena (Bandura, 1997). Heine, Takata, and Lehman (2000) made a distinction between public presentational behavior and private evaluative feelings. Indeed, self-efficacy emerged as a much stronger predictor of individuation in the present study. Perceptions or beliefs about agency and efficacy might predispose individuals to show their abilities to control the environment by taking the lead and seeking attention. It is a sense of competence and mastery over the environment and consequences of events that better explains individuation.

This study validated the conceptualization of individuation using personal characteristics as predictors in Chinese culture. Yet, this agentic behavior toward desirable goals not only derives from one's beliefs about personal efficacy, but is also embedded within one's beliefs about how the environment operates and how events happen. As such, both beliefs about the self and beliefs about how the world functions, as well as desirable goals, should be important to the prediction of individuating behavior. Building upon Study 1, therefore, Study 2 extends the investigation from Chinese contexts to a Western culture. It also takes an integrative perspective and incorporates values as desirable goals, self-efficacy as beliefs about the self and social axioms as beliefs about the world into the explanatory framework. Self-construals are still included to illuminate how cultural orientations channel one's behavioral propensities toward agency or communion.

Study 2

The second study was conducted in two Chinese cultural groups, i.e., Beijing and Hong Kong, as well as in a Western culture—Vancouver, Canada. As in Study 1, Beijing and Hong Kong share the same language system and yet differ in socio-political structure. To ensure that the Canadian sample reflected Western cultural characteristics, we recruited only those Canadian participants who were born in Canada.

Values

This study assessed Schwartz's (1992) 10 types of individual values, postulated to form a quasi-circumplex structure, in which adjacent values are more related and opposing ones more complementary. They are grouped on two basic bipolar dimensions, each containing two higher-order value types: Openness to Change (Self-Direction and Stimulation) vs. Conservation (Conformity, Tradition, and Security) and Self-Transcendence (Universalism and Benevolence) vs. Self-Enhancement (Achievement and Power), while Hedonism belongs to both Openness to Change and Self-Enhancement.

The four higher-order types were used in the analysis to reduce the number of predictors and simplify interpretations. This approach has been adopted by previous value research to predict behaviors and attitudes (e.g., Bilsky, 1998; Hrubes, Ajzen, & Daigle, 2001; Ros, Schwartz, & Surkiss, 1999; Schwartz, 1994). Of the four dimensions, Self-Enhancement is especially relevant to individuation, as the strong desire for achievement and power would be positively related to individuating behavior. As a modern orientation, individuation, especially attention-seeking behavior, was also hypothesized to associate negatively with Conservation, which encompasses traditional, conservative values.

Social Axioms

As domain-general beliefs about how the world functions, social axioms affect individuals' social behavior by guiding their cognitive processes to address four human functions (Leung & Bond, 2004): instrumental (facilitating goal attainment), ego-defensive (protecting self-worth), value-expressive (reflecting one's values), and knowledge-acquiring (understanding the world). The axioms that facilitate goal attainment function to guide an individual's cognitive processes leading to individuation. Among the five axioms, two were expected to associate with individuation. Reward for Application, which refers to a belief that efforts invested will lead to positive outcomes (Leung et al., 2002), serves as a guiding principle for directing

behavior effectively, and was thus hypothesized to relate to individuation positively. Social Cynicism represents a negative view of human nature and a biased assessment of social events (Leung et al., 2002). This belief contradicts the confidence associated with individuating behavior, which signals low anxiety about the receipt of negative outcomes in social interactions. A negative relationship between Social Cynicism and individuating behavior was therefore expected.

Method

Participants

A total of 609 university students participated in the present study. Of these, 199 (106 males and 93 females) were from Beijing Normal University, China, 206 (106 males and 100 females) from Chinese University of Hong Kong, and 204 (52 males and 152 females) from University of British Columbia, Canada. The mean age was 20.52 (SD = 2.16) for Mainland Chinese, 20.68 (SD = 1.39) for Hong Kong Chinese, and 20.48 (SD = 3.65) for Canadians. They were invited to take part in this study on a voluntary basis.

Instruments

Participants completed the following questionnaires in their first language: simplified and traditional Chinese characters for Mainland and Hong Kong Chinese, respectively, and English for Canadians. The equivalence of meaning on all items was ensured through consultations with bilinguals from Mainland China and Hong Kong, as well as researchers in Canada.

Three scales were adopted from Study 1: The Individuation Scale (Maslach, 1974), the General Self-Efficacy Scale (Schwarzer & Jerusalem, 1995), and the Self-Constraint Scale (Gudykunst et al., 1996).

The Schwartz Value Survey (SVS) The 57-item version of the SVS (Schwartz, 1992; Schwartz & Boehnke, 2004) was used to measure how important each value was to participants. Each item was followed by a short explanatory phrase in parentheses, for example, “equality (equal opportunity for all).” Participants were asked to rate the importance of each item as a guiding principle in their lives on a 9-point scale, ranging from -1 (*opposed to my principles*), through 0 (*not important*), 3 (*important*), 6 (*very important*), to 7 (*of supreme importance*).

Since the SVS has been widely used in participants’ native languages in multicultural studies and well validated by rigorous methodology and empirical studies (e.g., Schwartz & Bardi, 2001; Schwartz & Boehnke, 2004), the culture-general factor structure was directly adopted in this study. The mean scores of the 10 value

types were computed first by averaging the items associated with the corresponding value type, and then factor scores of the four dimensions were computed by averaging the value scores under their corresponding dimensions.

The Social Axioms Survey (SAS) The SAS was designed by Leung et al. (2002) to assess general social beliefs. The scale consists of 60 items, with all responses anchored on a 5-point Likert scale, ranging from 1 (*strongly disbelieve*) to 5 (*strongly believe*). Since the pan-cultural factor structure of social axioms has been validated by multicultural studies and with local Chinese samples, this study adopted the five factors as previously determined: Social Cynicism (e.g., “Powerful people tend to exploit others”), Reward for Application (e.g., “One will succeed if he/she really tries”), Social Complexity (e.g., “Human behavior changes with the social context”), Fate Control (e.g., “All things in the universe have been determined”), and Religiosity (e.g., “Belief in a religion makes people good citizens”).

Procedure

The procedure for Study 2 was the same as that used in Study 1.

Results and Discussion

The Individuation Scale

Descriptive statistics including means, standard deviations, and reliability coefficients of the variables under study are presented in Table 3. As in Study 1, the factor structure of the Individuation Scale was examined within each culture. Again, the scree plot clearly suggested the retention of one factor. Furthermore, Cronbach's alpha of the 12 items was 0.81, 0.87, and 0.87 for Mainland China, Hong Kong, and Canada, respectively, without any negative item-total correlations, indicating unidimensionality as well. As the one-factor model was also validated by Kwan et al.'s (2002) American sample, the construct was therefore treated as a single factor for cross-cultural comparisons in the present study.

Gender and Cultural Differences

To test for gender and cultural differences in individuation, a 2 (gender) \times 3 (culture) ANOVA was conducted. The ANOVA indicated no significant gender \times culture interaction effect, $F(2, 601) = 2.23, p > .05$. The main effect for gender was significant, $F(1, 601) = 4.91, p < .05$, with males ($M = 3.09, SD = 0.60$) scoring

Table 3 Means, standard deviations, reliability coefficients, and intercorrelations for measures in Study 2

Measure	Mean	Standard Deviation													
			1	2	3	4	5	6	7	8	9	10	11	12	13
Mainland Chinese (<i>N</i> = 199)															
1. Individuation	3.15	0.61	0.83 ^a												
2. Self-Efficacy	2.65	0.45	0.34 ^{***}	0.81											
3. Independence	5.07	0.64	0.26 ^{***}	0.33 ^{***}	0.76										
4. Interdependence	5.03	0.62	0.06	0.02	0.12	0.78									
5. Openness to Change	3.83	0.94	0.11	0.19 ^{**}	0.35 ^{***}	-0.04	0.74								
6. Self-Enhancement	3.60	0.95	0.26 ^{***}	0.16 [*]	0.26 ^{***}	-0.05	0.68 ^{***}	0.79							
7. Self-Transcendence	4.54	0.71	0.15 [*]	0.15 [*]	0.16 [*]	0.33 ^{***}	0.32 ^{***}	0.16 [*]	0.78						
8. Conservation	3.90	0.80	0.00	-0.04	-0.02	0.29 ^{***}	0.09	0.16 [*]	0.67 ^{***}	0.77					
9. Social Cynicism	3.01	0.46	-0.10	-0.04	0.17 [*]	-0.13	0.15 [*]	0.33 ^{***}	-0.22 ^{**}	-0.06	0.80				
10. Reward for Application	3.44	0.46	0.00	0.15 [*]	0.03	0.40 ^{***}	-0.06	-0.05	0.31 ^{***}	0.33 ^{***}	-0.11	0.76			
11. Social Complexity	4.03	0.34	0.13	0.11	0.26 ^{***}	0.15 [*]	0.07	0.08	0.02	0.03	0.23 ^{**}	0.23 ^{**}	0.60		
12. Fate Control	2.85	0.52	0.13	0.08	0.06	-0.11	0.06	0.13	-0.08	-0.01	0.23 ^{**}	-0.12	0.06	0.59	
13. Religiosity	3.00	0.58	0.14	-0.00	0.05	-0.13	0.10	0.00	0.06	-0.00	-0.06	-0.17 [*]	-0.02	0.39 ^{***}	0.71
Hong Kong Chinese (<i>N</i> = 206)															
1. Individuation	2.93	0.59	0.84 ^a												
2. Self-Efficacy	2.51	0.49	0.39 ^{***}	0.88											
3. Independence	5.04	0.56	0.42 ^{***}	0.39 ^{***}	0.76										
4. Interdependence	5.14	0.53	0.11	0.17 [*]	0.12	0.77									
5. Openness to Change	3.87	0.96	0.19 ^{**}	0.19 ^{**}	0.22 ^{**}	-0.03	0.78								
6. Self-Enhancement	3.83	0.91	0.12	0.12	0.15 [*]	-0.07	0.67 ^{***}	0.80							

7. Self-Transcendence	4.47	0.71	0.20**	0.03	0.07	0.16*	0.27***	0.13	0.79								
8. Conservation	3.94	0.77	0.15*	-0.09	-0.02	0.15*	0.12	0.24***	0.65***	0.75							
9. Social Cynicism	3.12	0.39	-0.20**	-0.02	0.10	-0.09	0.12	0.31***	-0.10	-0.01	0.74						
10. Reward for Application	3.70	0.36	0.21**	0.28**	0.34***	0.32**	0.03	0.02	0.21**	0.21**	-0.03	0.69					
11. Social Complexity	4.16	0.27	0.09	0.15*	0.19**	0.21**	0.30***	0.22**	0.16*	0.01	0.16*	0.20**	0.59				
12. Fate Control	3.00	0.52	0.01	-0.08	0.06	0.02	0.18*	0.26***	0.11	0.13	0.30***	-0.02	0.07	0.60			
13. Religiosity	3.27	0.68	0.05	-0.23**	-0.00	0.06	0.06	-0.03	0.30***	0.30***	-0.15*	0.14*	0.02	0.07	0.83		
Canadians (<i>N</i> = 204)																	
1. Individuation	3.02	0.72	0.87 ^a														
2. Self-Efficacy	3.02	0.40	0.49***	0.83													
3. Independence	5.38	0.58	0.24***	0.45***	0.77												
4. Interdependence	5.16	0.64	-0.04	-0.07	0.16*	0.82											
5. Openness to Change	5.75	1.30	0.23**	0.20**	0.31***	0.15*	0.84										
6. Self-Enhancement	5.47	1.29	0.02	0.14*	0.29***	0.10	0.76***	0.87									
7. Self-Transcendence	6.27	1.16	0.04	0.02	0.17*	0.37***	0.44***	0.31***	0.86								
8. Conservation	5.40	1.31	-0.14*	-0.05	0.15*	0.40***	0.43***	0.57***	0.67***	0.85							
9. Social Cynicism	2.61	0.46	-0.19**	-0.01	0.10	-0.12	-0.01	0.10	-0.13	-0.01	0.76						
10. Reward for Application	3.52	0.45	0.03	0.20**	0.25***	0.08	0.17*	0.26***	0.21**	0.29***	0.05	0.73					
11. Social Complexity	4.03	0.42	0.08	0.12	0.26***	0.15*	0.20**	0.17*	0.27***	0.17*	-0.10	0.58***	0.69				
12. Fate Control	2.35	0.52	-0.12	-0.05	-0.07	0.02	0.02	0.12	0.08	0.18*	0.21**	0.23**	0.06	0.54			
13. Religiosity	2.97	0.82	-0.14*	-0.07	-0.11	0.04	-0.28***	-0.10	0.16*	0.23**	-0.08	0.27***	0.15*	0.26***	0.83		

Note: * $p < .05$; ** $p < .01$; *** $p < .001$.

^aThe reliability coefficients are on the diagonal.

significantly higher than females. The main effect for culture was also significant, $F(2, 601) = 6.42, p < .01$. Pairwise comparisons showed that Hong Kong Chinese ($M = 2.93, SD = 0.59$) were significantly lower in individuation than Mainland Chinese ($M = 3.15, SD = 0.61$), $p < .01$, and marginally lower than Canadians ($M = 3.02, SD = 0.73$), $p = .051$. The latter two groups were not significantly different from each other, $p > .05$.

Correlates of Individuation Within Cultures

Pearson correlation coefficients were computed for pairwise variables within each culture (see also Table 3). Demographic variables bore weak associations with individuation. Individuation was significantly correlated with gender only in Canada, $p < .05$, but not in Mainland China or Hong Kong, $p > .05$, with Canadian males more individuating than females. Linkages of individuation with other demographic variables such as age and religion were not significant, $p > .05$. As hypothesized, individuation showed a moderate positive correlation with self-efficacy, $r_{(197)} = .34$ in Mainland China, $r_{(204)} = .39$ in Hong Kong, and $r_{(200)} = .49$ in Canada, $p < .001$. The correlations between individuation and an independent self-construal were also significant in all three cultures, $r = .26, .42, .24$, respectively, $p < .001$.

Among its correlations with values and social axioms, individuation showed different patterns in the three groups: In Mainland China, individuation was positively correlated with Self-Enhancement and Self-Transcendence, $p < .05$. In Hong Kong, individuation was positively correlated with Openness to Change, Self-Transcendence, and Reward for Application, but negatively with Social Cynicism, $p < .01$. In Canada, individuation was positively correlated with Openness to Change, but negatively with Conservation, Social Cynicism, and Religiosity, $p < .05$.

Predicting Individuation Across Cultures

To identify common predictors of individuation across individualistic and collectivist cultures, hierarchical regression analysis was conducted with individuation as the criterion in the pooled data. As three cultures were involved, dummy variable coding is needed when the independent variable is discrete (e.g., Cohen & Cohen, 1983; Fox, 1991). The discrete variable of culture was first converted into two dichotomous variables by dummy coding. Mainland China was coded as 0, and the first dummy variable was coded as Hong Kong = 1 vs. non-Hong Kong = 0, and the second as Canada = 1 vs. non-Canada = 0. These two dichotomous variables were entered into regression as a group to analyze their effects on the criterion. Demographic variables, including age and gender, and the two dummy variables were entered into the first block to control for their effects on individuation. Block 2 contained self-efficacy as well as independent and interdependent self-construals.

Then the four value factors were entered into block 3 and the five axioms into block 4, examining their additional contributions.

The sample multiple correlation coefficient was .51, indicating that the regression model explained 25.6% of the total variance in individuation, $R^2 = .26$, $F(16, 592) = 12.73$, $p < .001$ (see Table 4). Multicollinearity was not indicated (TOL ranges from 0.23 to 1.00; VIF ranges from 1.00 to 4.35). Among the demographic variables, the effects of the two dummy variables were significant, $\beta = -.09$ and $-.39$, respectively, $p < .05$, with Hong Kong Chinese and Canadians less individuating than Mainland Chinese. Among the predictors, self-efficacy was positively related to individuation, $\beta = .33$, $p < .001$, and independent self-construal, $\beta = .18$, which is consistent with our hypotheses. Across the three cultures, participants with higher levels of self-efficacy and independence were more willing to individuate themselves.

Of the four value factors, Conservation emerged as a significant predictor in a negative direction as expected, $\beta = -.19$, $p < .01$. Among the five axioms, only the effect of Social Cynicism was significant and negatively related to individuation, contributing additional variance above and beyond self-views and values, $\beta = -.23$, $p < .001$, only partially supporting our predictions, since Reward for Application was not significant, $p > .05$. These results demonstrated the additive power of values and social axioms. Across the groups, conservative or cynical individuals were less willing to individuate themselves, after their personal and cultural characteristics were accounted for.

Table 4 Hierarchical regression analysis for variables predicting individuation in Study 2 ($N = 609$)

Variable	Block 1 β	Block 2 β	Block 3 β	Block 4 β
Age	-0.03	-0.02	-0.02	-0.02
Gender (0 = male, 1 = female)	-0.08	-0.02	-0.03	-0.06
HK Chinese vs. Non-HK Chinese	-0.16**	-0.11*	-0.11*	-0.09*
Canadians vs. Non-Canadians	-0.08	-0.26***	-0.34***	-0.39***
Self-Efficacy		0.37***	0.35***	0.33***
Independence		0.17***	0.15**	0.18***
Interdependence		-0.00	-0.00	-0.01
Openness to Change			0.09	0.06
Self-Enhancement			0.01	0.08
Self-Transcendence			0.19*	0.14
Conservation			-0.17*	-0.17*
Social Cynicism				-0.23***
Reward for Application				-0.04
Social Complexity				0.03
Fate Control				0.06
Religiosity				0.02
R^2	0.03	0.20	0.22	0.26
df	4/604	3/601	4/597	5/592
F change	4.15**	44.10***	3.47**	5.65***

Note: * $p < .05$; ** $p < .01$; *** $p < .001$.

General Discussion

The present research investigated the construct of individuation in Chinese and Western cultures. Study 1 expanded its nomological network using two Chinese samples in Shanghai and Hong Kong. Individuation was found to correlate positively with modernity, self-esteem, self-efficacy, and independent self-construal, but negatively with traditionality. Study 2 confirmed its positive correlations with self-efficacy and independent self-construal in three cultural groupings, Beijing, Hong Kong, and Canada. Overall, these personality correlates support the notion that individuation emphasizes the need to present the self as unique and independent. Behaviors that distinguish oneself from others get public attention, and this achieved uniqueness and distinctiveness can establish a sense of identity and individuality (Maslach, 1974). This behavioral style resembles individualistic cultural values as captured by an independent self-view. Thus, it is not surprising that it consistently showed a positive correlation with independent self-construal in the present studies, regardless of cultural contexts.

In the predictions of individuation across cultures, the regression model in Study 1, comprising modernity, traditionality, self-esteem, self-efficacy, independence, and interdependence, accounts for 18.2% of the total variance in individuation. In Study 2, the regression model comprising self-efficacy, independence, interdependence, values, and social axioms accounts for 25.6% of the total variance. Though a large amount of variance remains unexplained, reflecting the complexity of social behavior governed by multiple causes, especially social contexts and situational factors, the variance explained across the two studies increased substantially from 18.2% to 25.6%. This demonstrates the additive contributions of values and social axioms above and beyond personal characteristics, cultural self-views, and beliefs about the self in both individualistic and collectivist cultures.

Relations to Values

The correlational and regression findings in Study 2 confirm our hypotheses on the value dimensions, indicating that individuation was negatively predicted by Conservation across the three groups and that it was positively correlated with Self-Enhancement in Mainland China. As Conservation encompasses three individual values, viz., Conformity, Tradition, and Security, it represents a traditional mindset and relates to avoidance of social rejection. In Maslach's (1974) group experiment, participants' individuating behavior was linked to deviancy and anticonformity, whereas "deindividuating" behavior was exhibited by conforming more often to common responses. The scores from the Individuation Scale were associated with various measures of anticonformity and differentiation from others (Maslach et al., 1985). Conversely, the personality trait of Openness to Experience was correlated with Seeking Attention, one of the two factors of individuation in the Chinese case (Kwan et al., 2002). The value factor of Openness to Change, consisting of Self-Direction and Stimulation values, enhanced individuating behavior, whereas

its opposite pole Conservation suppressed it. This pattern parallels the linkage of individuation with modernity and traditionality in Study 1.

Interestingly, individuation was positively linked to both Self-Enhancement and Self-Transcendence in correlation analysis, two opposing value factors in Schwartz's (1992) circumplex model. A plausible explanation is that they were close to different behavioral components in the individuation complex: Taking the Lead might arise from the individual values of Universalism and Benevolence affiliated to Self-Transcendence, and Seeking Attention from the values of Achievement and Power as described by Self-Enhancement. This might also explain the positive correlation between individuation and interdependence in Study 1, as Taking the Lead may be tied to interpersonal contingencies. Yet, these interpretations are speculative, in need of future work to tease out the ramifications of this complex behavioral construct.

Contribution of Social Axioms

Social axioms predicted individuation above and beyond self-efficacy, self-construals, and values, indicating their unique contribution toward explaining social behavior across individualistic and collectivist cultures. As expected, Social Cynicism contributed significant effects in a negative direction. A negative view of human nature and negative assessment of social dynamics decreased the likelihood of putting oneself forward in public, in both Chinese and Western settings, a withdrawal dynamic that has been evidenced in studies of life satisfaction (Lai, Bond, & Hui, 2007). Although Reward for Application did not emerge as a significant predictor in the regression analysis, its correlation with individuation was significant in the Hong Kong sample. Believing in conscious efforts leading to favorable consequences serves as a motive for individuals to exert personal agency. In a similar vein, the personality trait of Conscientiousness predicted Taking the Lead in Kwan et al.'s (2002) study. Self-differentiating behavior is shaped by the instrumental function of attaining desirable goals, as captured by social axioms.

Gender Differences in Individuation

The ANOVA results indicated gender differences in individuation in Study 2, but not in Study 1. A closer examination of the cultural groups showed that the differences lay in the Canadian sample. Canadian males individuated themselves more than females, in accord with the gender difference found by Maslach et al. (1985) with an American sample. These findings could be explained by the societal expectations of the male gender role being more assertive, independent, and agentic, whereas that of the female being more humble, dependent, and communal (Bond, Kwan, & Li, 2000; Wosinska, Dabul, Whetstone-Dion, & Cialdini, 1996). These cultural norms about differential gender roles model the masculinity of the agentic dimension and

the femininity of the communal dimension. Fischer, Rodriguez Mosquera, van Vianen, and Manstead (2004) analyzed a multicultural data set on emotion and found that emotions characterized as powerlessness and vulnerability corresponded less with the male gender role in countries where women's status and power were higher. In other words, the male gender role expressed more agentic characteristics in Western cultures, which might explain the gender difference in the agentic behavior of individuation found in Canada but not in Mainland China or Hong Kong. It is possible that Chinese female university students are assertive and competitive and women are more career-oriented in Chinese cities than in Vancouver.

Cultural Differences in Individuation

Compared with gender differences, the results of cultural differences were more complex. Given the evidence of greater conformity for East Asians than for Westerners (e.g., Huang & Harris, 1973; Meade & Barnard, 1973; Smith & Bond, 1998), Chinese were expected to emphasize relationship harmony (Kwan, Bond, & Singelis, 1997) and individuate less than Westerners. Indeed, Hong Kong Chinese scored lower than their Canadian counterparts in individuation. It is, however, surprising that Mainland Chinese were more likely to individuate themselves compared to those in Hong Kong and Canada. Owing to its colonial background and geographical location, Hong Kong was assumed to be more westernized among the cities of China. Accordingly, people in Mainland China were thought to stick more to traditional norms and values, showing less individuating behaviors.

Probably the current studies sampled university students and the items in the Individuation Scale delineate behavioral repertoire mostly in academic settings, such as public speaking, group discussion, expressing opinion, and stating one's position. In Mainland China, great emphasis on education and high achievement is normative among contemporary Chinese students, including females from one-child families. Less restraint is then placed on behaviors conducive to academic accomplishment, like individuation. On the other hand, the central characteristics of cultural norms depict personal identity and relationships with others and one's in-group, which are broader in scope. The mixed findings on individuation, therefore, might be more specific to academic settings. Whether these patterns applied to other settings or situations remains an empirical research question.

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Conclusion

Believing in Beliefs: A Scientific but Personal Quest

Michael Harris Bond

Abstract As a species, we humans use, indeed must use, our cognitive capacities both individually and collectively to ensure our survival and enhance our flourishing in the ecological niches we inhabit across the life span. *Vivendo, ergo cogito*. Our abilities to discriminate, abstract, integrate knowledge into hierarchical models, to reflect and refine enable us to build upon classical and instrumental conditioning provided by our individual experiences over the life course to figure out how our world we inhabit works. Our cultures of origin provide each of us with a repository of received wisdom which equips each cultural group member with a general framework for testing in this process of mastering one's world. This transmitted legacy shapes how we process experiences across the life span, so as to revise our beliefs as a function of how the world responds to our being-in-that-world. These acquired truths or axioms about the material, psychological, social, and spiritual worlds encountered by us humans organize themselves into five separate dimensions, along which each individual develops a profile representing his or her best-practice judgments to date. We have come to conceptualize these general judgments about how the world functions as individual assessments of the perceived distal situation. We individuals must deploy the personal resources of temperament, intelligence, and creativity in our daily exchanges with the proximal environment we confront to achieve our preferred goals through our engagements in individual life projects. Numerous empirical studies to date have suggested this to be a useful general model for understanding human functioning, a model which is being further elaborated as research continues. This scientific process parallels the individual process by which individuals elaborate their understanding of the world that they continue to engage.

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Sum, ergo cogito.

Reversal of the fundamental Cartesian postulate

Belief is central to the human enterprise, be that enterprise the doing of science or the living of our individual lives. Belief enables action and is shaped by the consequences of those actions in the evolution of our lives, both individually and collectively. But, what are the beliefs we believe in? What concerns must we address with our beliefs to anchor us successfully midst life's turmoils? What profiles of belief do we adopt to contend with the rush of events so that each of us may survive and flourish? These are the questions tentatively examined in this concluding essay to this collection of papers on social axioms.

It is an ongoing beginning, however, masquerading as a conclusion. In reflecting on my experience with our axioms project to date, I am in complete but tentative accord with William James who writes in his foundational "The will to believe" that,

I live, to be sure, by the practical faith that we must go on experiencing and thinking over our experience, for only thus can our opinions grow more true; but to hold any one of them—I absolutely do not care which—as if it never could be reinterpretable or corrigible, I believe to be a tremendously mistaken attitude. (James, 1896, VI)

So, this concluding chapter of an edited collection of scientific thinking about beliefs is best read with the "pyrrhonic skepticism" and openness to revision that any pragmatic empiricist would embrace, as James himself embraced and asserted that we all embrace, whether we know it or not. The future of our beliefs about belief awaits our attempts to test them though living them out, both as scientists and as active agents in the world . . .

The Centrality of Belief in Human Functioning

As a matter of fact, we find ourselves believing; we hardly know how or why.

James, "The will to believe," 1896, III

As an undergraduate, I was fascinated by Descartes' claim of "Cogito, ergo sum" to be the starting point of his philosophical explorations. That claim made personal sense if one considered life an intellectual exercise; I did not. Even then, my position was, "Vivendo, ergo cogito"—I live, therefore think. Thought is tied to the processes of living and is an essential contributor to living well. We possess "the will to believe," as James (1896) termed it, because each human needs to render the "great blooming, buzzing confusion" of sensate experience manageable by structuring his or her world through thought. Each person needs to figure out how and why things happen so that events may be predicted, controlled, and explained. "*We must know the truth; and we must avoid error*—these are our first and great commandments as would-be knowers," according to James (1896, VII, emphasis in original). I take this assertion as a trans-historical, pan-cultural universal.

We live, therefore we think . . . must think, each within the limits set by natural proclivity and ability. Quoting Stephen, James (1896) endorses the human necessity of thinking in the face of uncertainty:

What do you think of yourself? What do you think of the world? . . . These are questions with which all must deal as seems good to them. They are riddles of the Sphinx, and in some way or another we must deal with them . . . in all important transactions of life, we have to take a leap into the dark . . . but whatever choice we make, we make it at our peril. (James, 1896, XI)

We take a stand for our truths because we are alive and must go forward as best we can, facing whatever perils and delights life will present to us. Thinking is a life-long, pragmatic exercise of a highly developed human capacity; we are sense-making creatures, and thinking, to rephrase Gibson (1979), is for doing! We cannot *not* think, as we have much to accomplish while we struggle to survive as best we can. For each of us, then, “Vivendo, ergo cogito.”

True, some people think more than others. Cacioppo and Petty (1982) developed a widely used scale to tap different levels of this need and its associated thinking activity, and subsequent work has shown its importance in the way persons respond to persuasive communications (Petty & Cacioppo, 1986). One can construe our daily encounters with the world around us as “persuasive communications” from that external reality about what is true and what is false, and appreciate that people will take varying levels of cognitive enterprise into assessing the truth of those “persuasive communications.” In his work on occupational types, Holland (1973) has identified the “investigative” type as one of his six, and we expect that this type of person takes the same thoughtful approach to his or her nonworking life as to their regular employment. They, too, are probably higher than their fellows in their need for cognition.

In this regard, it is intriguing to speculate on nonbelief, as opposed to belief or disbelief. Nonbelief implies an indifference to thinking about the topic in question. This indifference could imply revealing things about the nonbeliever—a personal laziness about thinking or an irrelevance of the topic area in the socialized consciousness of persons from that family, school system or societal discourse into which the nonbeliever has been socialized. The Leung et al. (2002) project began with our decision to provide a mid-point option to respondents of “neither believe nor disbelieve.” This mid-point response was given a mid-point score, implying that it was equidistant on a dimension between belief and disbelief. Suppose, however, that it represents a qualitatively different response indicating irrelevance? Should we not then be analyzing our data in an additional way that enables us to explore belief versus nonbelief, rather than just degrees of belief?

Of course, it is burdensome to think through every situation one confronts, carefully assessing its probable affordances for good or ill. We expect that the repeated, daily tasks of life would be especially vexatious for those—high in the axiom dimension of Social Complexity—who find so many possibilities in any given situation. Inevitably, we rely on established habits, some of us more than others, and some of us relying more than others on “received wisdom” in building our personal armamentarium of habit. A habit that survives the test of living is a confirmed expectancy about achieving positive outcomes and avoiding negative outcomes.

Habits are beliefs' success stories, encapsulating past exchanges with our daily environment, and setting our readiness to respond in the future (see Liem, Hidayat, & Soemarno, this volume for elaboration of this position). As Peirce (1878) put it, "The essence of belief is the establishment of a habit." (p. 290) And, we retain that habit-sustaining belief if it proves adaptive: "If it ain't broke, don't fix it" is probably the stabilizing mantra adopted by most people, most of the time. Regardless of whether we use the thinking of the past, embodied as habits, or think through new situations afresh, we must use the fruits of thought in order to survive and flourish. We need to think, and, as a result of this cognitive activity applied to the task of living our current life in our current situation, each of us has come to embrace those beliefs that have worked for us.

The Elusiveness of Belief

... one great blooming, buzzing confusion

William James, *Principles of psychology*, 1890, p. 462

So, we *will* to believe: "Our belief in truth itself, for instance, that there is a truth, and that our minds and it are made each other,—what is it but a passionate affirmation of desire, in which our social system backs us up?" (James, 1896, III). We will to believe because we want to know; we must know. But, *what* shall we believe through our acts of cognitive enterprise? As James argued, the will to believe could result in a host of different conclusions about what was true. Surveying the historical record, he concluded that, "... we find no proposition ever regarded by anyone as evidently certain that has not been called a falsehood, or at least had its truth sincerely questioned by someone else." (VI) James is siding with William Blake's aphorism that, "Everything possible to be believed is an image of truth."

How is the kaleidoscopic variety of beliefs to be explained? James claimed that there was a fundamental epistemological difficulty we all confront, viz., that life is not a controlled experiment. "Objective evidence and certitude are doubtless very fine ideals to play with, but where on this moonlit and dream-filled planet are they found?" (VI) Even scientists working to understand the same phenomena of nature, using the exacting strictures of the scientific method, draw different conclusions about the truth of the matter (indeed, about the truth of matter itself!). Drawing conclusions from scientific evidence itself requires an act of faith (Davies, 2007).

This sobering realization recalls Pascal's famous *pensee*, "There are truths on one side of the Pyrennes that are falsehoods on the other." This welter of belief arises because,

No concrete test of what is really true has ever been agreed upon. Some make the criterion external to the moment of perception, putting it either in revelation, the *consensus gentium* (the agreement of all nations), the instincts of the heart, or the systematized experience of the race. Others make the perceptive moment its own test ... The inconceivability of the opposite; the capacity to be verified by sense; the possession of complete organic unity or self-revelation ... are standards which, in turn, have been used. The much lauded objective

evidence is never triumphantly there; it is a mere aspiration ... marking the infinitely remote ideal of our thinking life. (James, 1896, VI)

James implies that our lack of agreement on a standard for truth arises because of our human condition, viz., that epistemologically humans cannot know a true standard for apprehending truth. Each of us decides what is true, generally without wondering why we do so. Perhaps to speculate on how we decide on the truth value of a given proposition is too existentially unsettling; it provokes what Laing (1962) termed, “ontological insecurity,” that sense of profound disorientation attendant upon discovering that one cannot extract any order from the flow of events. Speculating philosophically in this way would not only undermine our fragile, tremulous grip on reality but also distract us from the task of figuring out how our beliefs work in practice. We are “thrown” into an uncertain world that we must understand, and we go about our lives doing so. Once a workable solution is found, we hold fast to our hard-earned worldview.

Belief in the Behavioral Sciences

Hypotheses non fingo.

Issac Newton

As behavioral scientists, we too must search for the truth about the construct of beliefs. For, as Pepitone (1994) points out,

Human history provides abundant evidence of the importance of beliefs in the lives of all members of the species. We need only to read the stories of the Crusades, the witch trials, the strange concoctions said to cure cancer, and the role of astrology in decisions of state ... to infer that much of our cultural history can be coded as social behavior organized around beliefs. (p. 1)

Pepitone’s assessment of the importance of beliefs in our human condition begs the question of why beliefs are not more frequently studied by psychologists. He asks, “Is it because beliefs, especially of the religious kind, are intangible and irrational?” (p. 1) Or, is it that our Freudian legacy and clinical work on psychosis has led us to believe that beliefs are “mere” wish-fulfillments, sometimes carried to the apparent extreme of delusion? In any case, given the important role of belief in daily living, it would still seem a valuable avenue of scientific inquiry.

In a challenge to our discipline, Pepitone (1992) goes even further in suggesting that the reluctance of social scientists to deal with beliefs, “Is due to the impressive variability they show.” (p. 1) How can behavioral scientists hope to account for such extensive variation? And, as Gaines (1998) points out, “. . . the how and the why of the world, that is, common sense, is itself *culture-specific*.” (p. 240) An adequate account of differences in the content of belief will then require contending with the specter of culture, that *magnum mysterium* (Bond & van de Vijver, in press). Grasping this nettle would require hard, savvy thinking. That is disincentive enough, but Pepitone maintains that this undertaking challenges an

unconscious presumption characterizing much social science, and hence its pursuit is resisted:

Theories that aspire to be universal may be seriously compromised by systematic differences across cultural groups. Indeed, the threat of cultural differences may underlie the dominance, in “mainstream” North American social psychology, of theories and models built on processes and structures of the individual mind. Such content-free, self-contained theories of the mind ignore influences on social cognition and behavior originating in the sociocultural contexts in which humans inextricably exist. (pp. 1–2)

Pepitone is here suggesting that a parallel process occurs at the scientific level as typically occurs at the individual level when different beliefs are confronted— withdrawing into enclaves of co-believers, avoiding sources of these alternative viewpoints, and, if avoidance is not possible, eradicating “wrong thinking” by ostracizing dissenters or silencing them altogether. As persons (Koltko-Rivera, 2004) and as scientists (Kuhn, 1970), we recoil from abandoning our innocently accepted or hard-won worldviews. As Francis Bacon put it in his *Novum Organum*, “The human understanding, when any proposition has been once laid down, . . . forces everything else to add fresh support and confirmation . . . rather than sacrifice the authority of its first conclusions.”

Nonetheless, some social scientists press on in their quest for a fuller truth about beliefs. Who are these open-to-beliefs inquirers, these theory-enlarging psychologists?

Embracing Belief

If circumstances lead me,
I will find where truth is hid,
though it were hid indeed within the center.

Shakespeare, *Hamlet*, Act 2, Scene 2

As James has argued, “The intellect, even with truth directly in its grasp, may have no signal for knowing whether it be truth or no.” (James, 1896, VI) Despite the elusiveness of the truths we need for living, we *do* believe, sometimes passionately, in what our living has served to reveal about ourselves and about the world in which we continue to function—the physical world, the social world, and that “world” of forces beyond the physical and social, given names across cultures and epochs like fate, *Tien*, the Supreme Being, luck, *karma*, *yin*, and *yang*, the Sun, and so on. We *do* believe in certain “things” and that certain “things” are related causally to other “things” in this contingent world that we all confront. We simply *must* believe in order to function. Some of these beliefs are so essential to conducting our life in groups that their public contradiction is grounds for debate, dismissal, exclusion, or even execution.

Part of the truth value each person accords his or her particular beliefs arises because those truths are a component of his or her family’s (Boehnke, this volume; Ocejá, this volume) or organization’s (Kwantes & Karam, this volume) or gender’s

(Leung, Zhou, & Li, 2007) or religion's (Leung & Bond, 2004) or regional culture's (see Singelis et al., this volume) identity credentials in a world of sometimes contending groups and hence in the beliefs that help define them. The centrality of the belief in defining membership helps make it a "vital" belief in James' (1896) terms. Beliefs, like values, are part of our collective being-in-the-world, helping to "characterize" and qualify us as a member of the various groups of which we are an ongoing part. Group members reinforce our believing in certain ways, both implicitly and explicitly, making disbelief problematic and disagreement difficult.

Truth for the individual emerges out of daily practice, from personal engagement with the world, from mundane, personal activity. Philosophical demurrals aside, James (1896) acknowledged that, "... we do not ... give up the quest or hope of truth itself. We still pin our faith on its existence, and still believe that we gain an ever better position towards it by systematically continuing to roll up experiences and think." (VI) We reflect on the outcomes of the activities guided by our beliefs. If the action worked, we retain the belief that prompted it; if not, we change the belief. Liem et al.'s research (this volume) speculates about this iterative process, whereby specific expectancies linked to general axioms derived from past experience guide daily exchanges with one's immediate environment. We reflect on their success or failure, revising our expectancies and our general axioms accordingly. As Laing (1969) so aptly put it, "... between the impossible and the trivial, there may be a way that is both feasible and significant." (preface) And, we all seek that kind of way.

Given James' (1896) analysis of believing and its essential role in every individual's life, we need to remember that it is not just religious persons who take Kierkegaard's "leap of faith"—all persons believe in their particular truths, however acquired. Indeed, every person must believe in these truths in order to confront the onrushing unknowable, and do so without any philosophical hesitation. We refute unbelief just as Dr. Johnson is said to have refuted the solipsism of Bishop Berkeley—by kicking a stone that he encountered in his path. We earn our beliefs in the "test tube of life," out of our daily exchanges with the physical and social, and "spiritual" worlds.

If another's belief works for him or her, in what sense then can it be labeled "delusional," a pejorative term as used in both common and clinical discourse? Practically speaking, it matters little what another thinks. Thought is private; speech and action based on beliefs are public. Socially, we are only concerned about another's beliefs when those beliefs appear to produce sanctionable behaviors—behaviors that may include public attempts to persuade others to adopt the "deluded" belief. As we know, speaking out against established orthodoxy of belief provokes sharp suppression in many political systems, organizations, voluntary groups, and even families (Laing, 1969).

In some of those systems, the promulgator of "reactionary" belief may be labeled crazy and confined to an institution for the insane in order to avoid a disintegration of the system based on that orthodoxy. But, clinically speaking, psychiatrists and psychopathologists have difficulty labeling a person's beliefs as "delusions" as long as they "make sense" to some community of believers, however deviant from

mainstream thinking the views of that community may be (Gaines, 1998). These “delusional” beliefs are acquired, maintained, and changed in the same ways as normal beliefs (Maher, 1998). They are not wrong, merely sanctioned by others when the socially untoward consequences of the belief come to others’ attention. Again, beliefs are for doing, and as long as a person’s doing does not interfere with his or her success at community living or the wider community’s tolerance of his or her life style, that person is free to believe whatever he or she wills to believe.

Building a Belief System, Personal and Scientific

Father: “There is always the truth . . .”

Son: “No father, there is only that which is believable!”

From the Granada TV adaptation of *The raj quartet* by John Paul Scott

How the learning of beliefs occurs is an intriguing issue. Changes in the reinforcement contingencies for behavior in that environment would alter those behavior-related expectancies. Presumably, the changes in these specific expectancies would generalize to impact on the actor’s social axioms. At present we know nothing about how daily exchanges work to alter people’s general beliefs about the world, and need such studies. As pragmatic tools, specific beliefs should be responsive to environmental changes. But, are general beliefs alterable, and by what events, for what axiom dimensions, and for what kinds of persons?

At a basic level, beliefs probably change through the processes of reinforcement and punishment attendant upon acts testing a tentative belief or arising out of an already established belief. Specific expectancies about contingencies in the physical, interpersonal, and social domains are probably established in this way. How societal and “spiritual” beliefs are established is another matter, as they refer to more generalized abstractions from experience, and involve vague referents. They also carry a greater ideological component, and are thus “sensitive” and subject to forces of “political correctness.”

Some positions on the axiom dimensions may be generalized from specific experiences across events. So, for example, Chen, Wu, and Bond (2008) found that a lower endorsement of Reward for Application and a higher endorsement of Social Cynicism were associated with extended experiences of family dysfunction, particularly concerning parental abuses of power. Others may come from direct instruction provided by formal and informal social institutions characterizing a given society. The close clustering of Islamic national samples in Leung and Bond (2004) is instructive in this regard. Direct instruction may be especially important for the beliefs associated with Religiosity, a dimension of belief that shows the greatest variation across national systems (D. Van Hemert, personal communication 2005).

It may be that the oft-reported separation of axioms from personality (see Hui & Hui, this volume) is a consequence of beliefs’ development out of transactions between a thinking person and his or her physically constraining and socially

structured environment. The “real world out there” shapes a person’s beliefs in consequence of his or her interactions with that world, a world shared with others; these interactions are scripted to varying degrees for persons at a given stage of the life cycle in a given culture (Gelfand, 2007).

The outcomes of those transactions will of course vary as a function of the personal temperaments and resources the actor brings to the exchange (Hogan & Bond, in press; Tesser, 2002), thereby introducing some variation into the actor’s subsequent assessment of that world, i.e., his or her profile on the social axioms. Small relationships between personality and axioms develop in consequence. Basically, however, “drama precedes knowledge” (Peterson, 2006, p. 166), a position consistent with Vygotsky’s (1978) developmental logic that behavioral exchanges drive awareness. So, different persons interact with different environments and extract a different belief profile in consequence.

We need to know much more about the origins of general beliefs and then how they are changed by experience, if indeed they are. Is there a critical period for belief formation especially of general beliefs, after which they do not change? Perhaps social axioms do not change because the criteria for disconfirmation are so loose; perhaps because one’s belief becomes a self-fulfilling process, as Lai, Bond, and Hui (2007) and Lo (2006) have argued for Social Cynicism? Experimental studies may help guide our understanding in this regard.

The Usefulness of Belief, Personally and Scientifically

Belief is a wise wager.

Pascal, *Pensees*

Psychologists’ “need” to understand the ontogeny of beliefs has the same basis as the individual’s need to take a personal belief position—to optimize their outcomes. Just as the individual acts (or does not act) in light of his or her assessment of outcomes that arise from that action (or nonaction), so too the social scientist “does” science in order to better predict outcomes, specifically individual responses in the case of psychologists. It may be entertaining for academics to explore the architecture and demographics of belief, rather like the ivory-tower intellectuals in *Gulliver’s travels* pursuing their mathematical abstractions, but the litmus test of our psychologizing is our ability to predict our valued outcome—the individual’s response or behavior (Bond, 2005). As psychologists, we want to discover what beliefs are *doing* in the psychological makeup of the individual actor. The belief construct would be useful as a part of our scientific tool-kit if it plays a vital role in models for individual *action*.

As a first step in developing the axioms construct, our concern was to contribute a distinctive construct to the scientific armamentarium, a construct not already mapped under different labels. So, early in our axioms odyssey, we and other collaborators worked to ensure discriminant validity of the axioms construct from

other established constructs mapping the actor's sense of self-values, dimensions of personality, self-construals, and so forth (see, e.g., Dincă & Iliescu, this volume; Ghosh, this volume; Hui & Hui, this volume, for a summary of this work). This type of research will continue apace, as the construct of social axioms becomes better known to the psychological community. To date, little overlap between conceptions of self and social axioms has been demonstrated, but perhaps work on implicit measures of self (Hofer & Bond, 2008) or styles of thinking (Kozhevnikov, 2007) will show some predicted convergence.

Leung and Bond (2004) have proposed that particular domains of belief relevant to our lives are embedded hierarchically under general social axioms. So, we have also called for work linking general beliefs about the world to belief systems in specific domains, like physical health (see, e.g., Downs & Hausenblas, 2005), relationships (Hui & Hui, this volume), learning (see Bernardo, this volume), psychopathology (Chen & Bond, 2007), and group and personal identity (Weinreich & Saunderson, 2003), to name some examples that come readily to mind. With much more of this work in place, it will become possible to draw conclusions about a possible origin of social axioms—that they emerge out generalizations drawn from beliefs in specific domains of life. If so, it will be revealing to explore which axioms are derived from syntheses of which life domains.

Having established the distinctiveness of the axioms construct, we and other collaborators then wanted to relate axioms to outcomes of particular interest in our discipline, like coping styles (Comunian, this volume; Safdar, Lewis, Greenglass, & Daneshpour, this volume), styles of love (Boski, Biłas-Henne, & Więckowska, this volume), styles of learning (Bernardo, this volume), intergroup attitudes (Boski et al., this volume), moral development (Comunian, this volume), or normative compliance (Oceja, this volume). Future work in this vein is limited only by our scientific creativity in hypothesizing, and then establishing, links between social axioms and the various psychological constructs in disciplinary vogue.

The discriminant validity of social axioms from well-established psychological constructs implies that the social axioms serve some additional functions in guiding our social responses. Inspired by this possibility, we and other collaborators have sought to establish that axioms added predictive power to already-established constructs in predicting outcomes of interest. Sometimes these outcomes were internal responses, like political attitudes (Keung & Bond, 2002), and sometimes behavioral self-reports (Bond et al., 2004, on styles of conflict resolution; Chen, this volume on individuating behavior; Liem et al., this volume, on the intentions to study, to donate, and to pray).

Establishing the incremental validity of the axioms constructs in this way moves our discipline beyond simplistic approaches to understanding human responding; it stimulates scientific model-building for predicting behavior, “complexifying” our ideas about how responses, internal and external, “get done.” Given the nature of beliefs as assessments of environmental linkages, we have used expectancy-value models (e.g., Feather, 1982) as an initial template to guide our hypothesizing, but more complex integrations are possible, as evidenced by Liem et al.'s paper (this volume). We await further developments in this process of scientific elaboration.

The Localness of Belief

Those who want to plumb the deepest mysteries of Chinese life and customs may begin here.

Bloomfield, *The book of Chinese beliefs*, p. 13

Leung and Bond (2004) showed that members of different cultural groups endorse somewhat different profiles on the five, pan-cultural dimensions of social axioms. They then attempted to relate a cultural group's position on a given dimension to characteristics of its ecological–social environment, finding that affluence was a broad but weak predictor. This finding suggests the importance of a person's distal surroundings, their *umwelt*, in understanding his or her profile of beliefs, but this conclusion must be carefully qualified.

First, Leung and Bond (2004) characterized their pan-cultural solution for the axiom dimensions as “a lowest common denominator,” i.e., a solution that gave the best overall answer to the multicultural structure of the intercorrelations among the 60 belief items measured. As van de Vijver, Valchev, and Suanet (this volume) have demonstrated, this solution works with varying levels of success in each of the constituent cultural groups. Some axiom dimensions are better identified than others, and some of the SAS items defining the belief dimensions in the original 5-culture, Leung et al. (2002) study dropped out in the 41-culture analysis.

Clearly, better pan-cultural measures are needed for the dimensions of axioms, especially for Fate Control and Social Complexity. This issue is currently being addressed by a follow-up study conducted in ten heterogeneous cultures. Each dimension has been conceptually “facetized” into two related components whose constituent beliefs we expect will be interrelated but different in their focus from the items in their allied facet. So, for example, the dimension of Fate Control has been divided into a facet tapping control by fate-like forces and a facet tapping modes of human practices for gaining control over those fate-like forces. If results are supportive, then the original ambiguity inherent in the label “Fate Control” will have been decomposed through our attempts to improve the internal consistency of the factor and its allied facets.

This procedure may yield a better pan-cultural solution. But, it will also yield better local solutions by providing a more differentiated conceptual skeleton that local social scientists can “flesh out” by adding more indigenously relevant beliefs (see, e.g., Gari, Panagiotopoulou, & Mylonas, this volume). We have consistently argued that the content and structure of social axioms is first and foremost *local*. If one's purpose is to understand behavior enacted within a given cultural group, one must use the local understanding of general beliefs as revealed by an adequate analysis of beliefs locally structured. It is our position that this solution only becomes adequate at this stage of the research on social axioms if it emerges from analyzing data derived from a large number of culture members using the pan-cultural belief items supplemented with indigenous items.

To date, we can point to no single-culture study that meets this more exacting standard. The largest and most representative cultural sample to date was sourced

in Romania and analyzed across demographics of interest, like gender, education level and rural–urban residence (Guan, Bond, Dinka, & Iliescu, 2007). However, no indigenous axiom items were added to the original 82. Nonetheless, this analysis yielded a new factor of “Social Complexity,” sufficiently different from its pan-cultural version to be relabeled “Interpersonal Relations,” similar to the interpersonal factor revealed in earlier analyses of German data (Leung et al., 2002). Because the Romanian sample was both large and representative, one can place considerable confidence in the stability and accuracy of this factor solution.

Other larger-sample studies have used the 60-item axioms scale rather than the original 82-item version, thereby reducing the chances of detecting either distinctive factors or distinctive groupings of items into the fundamental five factors. A notable exception is the work by Gari et al. (this volume). These researchers added belief items that they considered indigenous and relevant. We believe that in consequence of identifying and measuring these additional items, they were able to define the original five factors more accurately for Greek culture and to identify a possibly new and useful dimension for Greek culture. We endorse the use of this “Greek approach,” as the authors labeled their discovery procedure, for all within-culture studies.

If axiom dimensions are to address the psychological questions we have tasked them to answer, they must be given a fair chance of doing so. For a within-culture study, this requires the use of culturally based, comprehensive, and reliable scales. Ideally, these would be derived as Leung et al. (2002) originally did or as the “Greek approach” guides us. When we move to bicultural or multicultural research, these scales must in addition be constructed in metrically equivalent ways for doing the job. Surely cross-cultural psychologists would especially wish to avoid “imposing” belief etics (Berry, 1969)! When attempting to represent psychological reality faithfully, we should remember the old statistical mantra, “Garbage in, garbage out,” reframed with indigenous sensibility as “Gold in, gold out.”

The Roles of the Different Axiom Dimensions

... and different beliefs are distinguished
by the different modes of action to which they give rise.

Charles Sanders Peirce, 1878, p. 291

When we began our study of social axioms, we had no idea of how many separate dimensions of axioms there might be. As inveterate cross-cultural researchers, we wanted to remain open to whatever conclusion our initial results from mining Venezuelan and Hong Kong cultures would suggest. We explored many solutions to our data sets of 2002 from five national–cultural groups and of 2004 from 40, following Einstein’s advice to “keep it simple, but no simpler.” There is always a tendency to over-factor, as it sharpens reliability and makes labeling the factors so much easier when the items group in tighter bundles of apparent meaning.

We could not find fewer than five. Early on, we were hoping for a sixth, labeled “interpersonal harmony” that had been identified by Bierbrauer and Klinger in their German data, because its meaning was so closely tied to the agenda for social psychology. It was not until we analyzed Romanian data that we found such a factor, but there was no evidence of a sixth factor in that data set. Instead, the Romanian factor of interpersonal relations was close to the original factor of Social Complexity, but had a few additional beliefs about managing interpersonal relations and so was renamed, “Interpersonal Relations.”

To date then, statistical evidence carefully considered within and across cultures points towards five factors of general belief. Perhaps in some cultures, like the Islamic, there may be fewer than five (compare Ishmail, this volume with Safdar et al., this volume; van de Vijver et al., this volume); in some, like the Greek, there may be more (Gari et al., this volume). Let us assume for present purposes, however, that five is a reasonable starting point for speculative inquiry. The question naturally then arises, “Why five, and why these five?”

In analyzing the role of beliefs, I have argued that beliefs are the residue of thinking that has led to successful actions and therefore constitute a roadmap from each person’s past into each person’s future. “Successful” is of course relative to the cultural context and personality needs of the individual actor, yielding the possibility that, “One man’s meat is another man’s poison,” an opening the scientific door to more idiographically sensitive designs (e.g., Weinreich & Saunderson, 2003). So, an individual’s position on a belief dimension represents that person’s solution-to-date of how the world works for achieving his or her life goals-to-date. People’s belief profiles will then vary accordingly.

But, what about the dimensions of general belief, upon which each individual’s profile is carved? Leung and Bond (2004) have proposed that they may signify universal, trans-historical issues faced by all members of the human species. We are biologically driven creatures thrown into the jungle of life, helpless on our own, depending for survival on the support and organizations of proximal others to meet those survival needs. The historical record additionally suggests that we humans have a reflexive nature, prodding us to transcend our creatureliness by speculating on our place in this contingent world, the purpose of our life, and whether this physical life that we know is all there. Terror management theory postulates that it is our distinctly human awareness of our fragile mortality that drives much of our cultural-artistic productivity and philosophical-spiritual speculation (see, e.g., Solomon, Greenberg, & Pyszczynski, 2000). This analysis suggests that each individual needs to acquire and exchange resources with others on an ongoing basis, to protect the social status necessary to manage those needed resources efficiently, and to acquire a sense of purpose in his life that may have some life-transcendent meaning and make comforting sense of all these material and social transactions (Hogan & Bond, in press).

Perhaps these are the “vital” or “living” issues that James (1896) identifies in his “Will to believe.” These are issues so fundamental to living that every individual must assume a position of belief with respect to that crucial domain in order to act and achieve desired outcomes from the multifarious daily activities that each

person undertakes. If so, then each person must figure out how to address these fundamental concerns by using the evidence about how the world works that he or she derives from personal experience. That experience will be apprehended through the prism of interpretation inculcated by each individual's proximal educators—parents, relatives, teachers, team captains, chairpersons, coaches, and the ideal figures who form each person's cultural heritage as transmitted in literature, scripture, stories, songs, sculpture, and art (Peterson, 2006).

Social Cynicism

Life's a beach!

Logo on a California T-shirt

Does life bring delights and are our fellows kindly disposed towards one another? These are the component areas of concern defining Social Cynicism on which persons vary in their judgments. The human context crucially involves other actors, playing their different social roles embedded within a particular cultural system. The axiom dimension of Social Cynicism involves the individual's assessment of whether engagement with that social world leads to beneficial or harmful outcomes to the actors involved. Can other people *and* the system itself be trusted (Fukuyama, 1995), are members of various social categories predisposed to act with malevolence towards others, do social inequalities increase over time, is “[human] nature red in tooth and claw,” as Hobbes put the question? Each person's engagement with the social world is crucial in providing the stuff and substance of life, but the quality of an individual's social life-to-date will shape a person's general expectations about the likely outcomes from continued engagement. People may *need* to believe in a just world, as Lerner (1980) maintained, but clearly not everybody does (Leung & Bond, 2004; see also Benabou & Tirole, 2006). For social cynics, their experiences trump their need.

Those who take a position of high Social Cynicism into the game of their life are typically male (Leung, Zhou, & Li, 2008, but see Ishmail, this volume), perhaps because males are universally socialized to be more agentic, assertive, and competitive to better instantiate their typical social role as family breadwinners. Social cynics report greater family dysfunction (Chen et al., 2008), higher levels of both avoidant and anxious attachment to their mothers in both Americans and Hong Kong Chinese (Mak & Bond, 2008), higher social anxiety (Lo, 2006), a preference for freedom from regulation in civic life (Keung & Bond, 2002), a more combative and confrontational approach to interdependencies (Bond et al., 2004), and a tendency to perceive out-groups as more competent (Guan, Bond, Kam, Zhang, & Deng, 2007). Cynics show a gloomy outlook marked by greater death anxiety (Hui & Bond, 2006–2007), more depressive symptomatology, lower levels of self-esteem (Chen et al., 2008), job satisfaction (Leung, Ip, & Leung, 2008), and life satisfaction (Lai et al., 2007).

For such persons, we speculate that social living has been hard, assaultive, and repressive, so that they now judge life to be “mean, nasty, brutish, and short,” to quote Hobbes once again. In consequence of this grim history, social cynics are prone to disengage socially and to act defensively when they encounter others, fulfilling their prophecy about the probable outcomes from living. Intriguingly, Social Cynicism is the only dimension of belief associated with lower life satisfaction. If beliefs are the acquired footprints of successful engagement with one’s life, how is it possible for *any* belief dimension to be associated with lower satisfaction with one’s life? Two answers suggest themselves; first, the person him- or herself does not know that their life satisfaction is lower than that of persons lower in Social Cynicism, and so their position on this belief dimension is not irksome. Second, Social Cynicism is the most *social* of the established five belief dimensions; through its self-fulfilling dynamic, it reduces the belief holder’s level of social support, an important buffer against life dissatisfaction (Sarason, Sarason, & Shearin, 1986).

Social Complexity

To every problem, there is a simple solution, and it is wrong!

H. L. Menken

Where Social Cynicism focuses on the quality of outcomes arising out of social life, a content consideration, Social Complexity is a belief about *how* those social outcomes “get done,” a process consideration. Menken, evidently a person high in Social Complexity, probably believed that such outcomes were determined by a host of factors, themselves interrelated. In consequence, there may be many ways to achieve a given outcome, and flexible, creative persons would be more successful. On the other hand, the experiences-to-date of socially simple persons have led them to believe that most social outcomes have arisen in a straightforward manner shaped by basic forces. Complex solutions are unnecessary and distract attention from the task at hand. Where the external environment including others’ interactional styles is unchanging and the tasks of life unvarying, as in more traditional societies, it is probable that such a worldview is more effective for daily functioning.

It is perhaps instructive that the Social Complexity dimension generally achieves the lowest internal consistency scores, despite the positive item-whole correlations that its constituent items generally receive. We speculate that the ambiguous content of the construct as currently conceptualized is responsible for the imprecision in our assessment to date of its membership. It has been found that in some cultures, like Romania, there is a more interpersonal focus for the construct. Indeed, in the earlier work with Germans, this interpersonal aspect of Social Complexity emerged as a separate factor (Leung et al., 2002). It may be, as we currently speculate and are testing multiculturally, that Social Complexity has two facets—consistency of external events and singleness of solutions to problems. These facets were only lightly tapped in our original measure, perhaps because our bottom-up approach

to developing the scale did not detect beliefs about process as opposed to content. The blending of the facets in the original measure also contributed to its lower Cronbach alphas.

Further research is needed on this key construct. We already know that it plays an important role in interpersonal interaction despite its lower reliability. Chan (2008) has shown that those higher in Social Complexity report greater modesty in their behavioral enactments. Bond et al. (2004) found that those higher in Social Complexity reported using collaboration and compromise more frequently in resolving conflict, and use problem solving to cope with difficulties. Allied research does not always replicate this finding on coping (see Comunian, this volume; Safdar et al., this volume), but we expect that part of this inconsistency in findings may arise because of its weaker psychometric properties. This weakness would increase the likelihood of type-2 errors, so that instructive results may have been missed in previous research. Again, more research is needed to refine the scale measuring the construct of Social Complexity.

Reward for Application

Impossible is nothing!

Adidas

This axiom dimension almost seems to be a measure of the self-concept, even though its items are about the external world, e.g., “Hardworking people are well rewarded.” Why are we more inclined to assume that such items are projections of personal orientations? Perhaps one reason is that, of the five axiom dimensions, Reward for Application is closer to the few established scales measuring personal belief, viz., Lerner’s (1980) Belief in a just world and Rotter’s internal–external (I–E) locus of control (Rotter, 1966). Indeed, the Singelis et al. (2003) research shows a rare correlation between the personality measure of I–E and an axiom measure. It is Reward for Application that is likely to show a modest overlap with personality measures in other research as well (Chen, Bond, & Cheung, 2006).

But there is more—this axiom dimension, more than any other, refers to individual human agency, or at least the interface between individual agency and the external world. The other dimensions refer to the external world almost exclusively (Fate Control is an exception, but its current measurement is heavily weighted in terms of externals.) So, it is with Reward for Application that one would expect the overlap with aspects of personality like conscientiousness (Chen, Fok, Bond, & Matsumoto, 2006) or dimensions of political attitude like egalitarianism (Keung & Bond, 2002) that are associated with personal agency. With its agentic focus, it is hardly surprising that Reward for Application is a predictor of individual behavior intentions (see Liem et al., this volume), and assessments of which influence tactics are likely to be effective in organizational settings (Fu et al., 2004). Developmentally,

it may emerge out of a less anxious attachment style towards one's mother, at least for Americans and Hong Kong Chinese (Mak & Bond, 2008).

Fate Control

Men at some time are masters of their fates.

Shakespeare, *Julius Caesar*

When Cassius speaks these lines, he is first of all acknowledging that there is a force in human affairs called fate. In the Greek and Roman worldview, there were many "fates," personified as human-like agents playing their individualized roles, intervening in human lives, often to the consternation of mere mortals going about their daily living. Fortunately, there were various stratagems that mortals could adopt that could influence these often capricious fates to alter their interventions in the human sphere.

Academics are prone to label such historical study as "mythology" (see Hamilton, 1942) and the practices designed to influence the fates "superstitions," characterizing ancient peoples (Wilkinson, 1998). As Nuland (2000) puts it,

There was an assumption of spiritual forces abroad in every forest and glen, and a sky full of temperamental gods who observe each man's actions and manipulate his destiny. How else to explain the vagaries of fortune, health, weather, famines, and floods? (p. 45)

Belief in control by such powerful, nonhuman forces not only has been, but is currently alive and well in the contemporary worldview of persons from all cultural legacies. Fate is psychologically important in the worldview of some of every cultural group's members. "In the minds of much of mankind, everyday events still seem easier to understand if they are seen as part of a sometimes predetermined and sometimes capricious pattern, in the hands of nonmaterial powers." (Nuland, 2000, p. 80) As one item in the dimension of Fate Control expresses the psychological issue, "Fate determines a person's success in life." Fortune, destiny, luck, and fate are real forces to be contended with in the minds of many.

However, fateful forces may be opposed by humans who observe certain practices that counteract the impact of impersonal influences. Intriguingly, to the extent that any individual acknowledges the influence of fateful forces, that same individual endorses beliefs in practices designed to neutralize or amplify those forces to the individual's advantage. So, the item, "There are methods people can use to alter their fates" also factors together into the construct of Fate Control. As one might expect with humans striving to maximize their outcomes in a contingent world, the outcomes believed to be controlled by fateful forces are themselves influenceable through individual practices. Such a conflation of belief types into the ambiguous construct of Fate Control may seem illogical, but is nonetheless "psychological." Fate control is not merely control by fate; it is control of that fate through practice. One's fate is perceived as negotiable (see Au et al., 2007, for a scientific exploration of negotiable fate).

Research by Pepitone and Saffiotti (1997) distinguishes a number of nonmaterial forces—fate (or destiny), God, luck, chance, and justice—that are used for understanding life events. These investigators demonstrated selectivity in how Indians and Americans used their belief or nonbelief in each of these nonmaterial forces to understand various outcomes in life. Their findings showed that different psychological functions are served by these different constructions and endorsement of nonmaterial forces. Persons from other cultural legacies could add other nonmaterial forces that form part of their worldviews, performing similar and perhaps even distinctive functions.

Our research to date certainly distinguishes the belief in a supreme being, which is an element of Religiosity, from belief in these other forces; how the remaining nonmaterial forces within the construct of Fate Control may be distinguished from one another may be revealed by current research enlarging the item pool for each axiom dimension. Is there a perceived external force called “justice”? Is good luck distinguished as an opposite from bad luck in human belief systems? Is one’s genetic heritage an aspect of Fate Control? How do the complementary Chinese forces of *yin* and *yang* connect to these more pan-cultural, nonmaterial forces? Should the construct of Fate Control be reconceptualized and renamed? Once we have a fuller picture of how Fate Control and allied constructs are constituted, we can begin exploring what separate roles they play in our human drama.

Despite the unclarity of the construct (see Safdar et al., this volume) and its often lower reliability of measurement, promising results have already been obtained. Fate Control is associated with reports of greater anxiety surrounding maternal attachment (Mak & Bond, 2008), death (Hui, Bond, & Ng, 2006–2007), a preference for freedom from regulation in the political ideologies of Chinese respondents (Keung & Bond, 2002), and relates to the individual’s attributional processes in self-serving ways (see Hui & Hui, this volume). These include Fate Control relating to one’s estimation of how effective the three basic organizational strategies of assertion, persuasion, and relationship-management are likely to be (Fu et al., 2004). The strength of the relationship between Fate Control and the rated effectiveness of these strategies varied across cultures, however, as Pepitone (1994) has warned would be the case, and this varying degree of Fate Control’s impact remains to be explained.

Fate Control also has behavioral implications, as one would expect from its role in interpreting and predicting life events—it predicts behavioral intentions (see Liem et al., this volume) and relates to one’s coping style, with those Chinese higher in Fate Control likely to report wishful thinking and distancing (Bond et al., 2004). It also predicts higher levels of suicidal ideation, over and above the prediction provided by the respondent’s level of depression (Lam, 2008). So, it is a belief dimension rich with possibility and promise in predicting and explaining life outcomes and therefore in guiding the individual’s engagement with life. As always, creative and sensitive research is needed to further reveal these linkages.

Religiosity

God, the best maker of all marriages, combine your hearts in one.

Shakespeare, *Henry V*

God is the Christian variant on the construct of a supreme being, and hence “God” is the appropriate term for the seventeenth century Shakespeare to use; different cultural-religious traditions have their own term for a supreme being. The broadly phrased item, “There is a supreme being controlling the universe,” is a constituent element of the Religiosity factor in all cultures studied to date (Leung & Bond, 2004).

We expect that such a supreme being will be universally construed by believers as benevolent, helpful and ultimately a bestower of grace on the humans who form a part of the universe controlled, as a close reading of Freud’s (1961) ideas about wish fulfillment would lead us to predict. This presumption is being tested in our current extension of the beliefs work, but seems likely—there is a close and unshakable association between the belief in a supreme being and the belief that associated religious institutions serve positive social functions, “combining hearts as one,” quoting Shakespeare again. Items tapping this positive social function of organized religion so dominated the operational definition of this factor that we decided to rename it as “Religiosity” in place of our original label, “Spirituality.”

The beneficial human functions believed to be served by this supreme being, and the human institutions designed to worship that supreme being, may account for its distinction from Fate Control in most cultures. But, we anticipate that the distinction between Fate Control and Religiosity is difficult to establish in some cultural traditions—in the USA and Romania, no (Guan et al., 2008; Singelis et al., this volume); in Greece, maybe (Gari et al., this volume); in Iran, apparently yes (Safdar et al., this volume). Future work needs to explore the distinction between Religiosity and Fate Control, whether and why they conflate as constructs or not.

When they can be legitimately separated, Religiosity performs important and distinctive functions. Not surprisingly, it buffers one’s anxiety about death (Hui et al., 2006–2007), negatively predicts support for freedom from restriction in political ideology (Keung & Bond, 2002), and relates both to one’s stage of moral development (Comunian, this volume) and one’s endorsement of different love styles (Boski et al., this volume). Religiosity is a strong predictor of constructs leading to the crystallizing of behavior intentions in various domains, especially that involving religious behavior like praying (see Liem et al., this volume). It predicts the use of styles for conflict resolution, including both competition and accommodation (Bond et al., 2004). Consistent with the social implications of these previous findings, a higher religiosity predicts the rated effectiveness of both assertion and relationship-based strategies in exercising organizational influence (Fu et al., 2004).

Religiosity also predicts the use of a rational coping strategy, at least in Italy (Comunian, this volume). This last finding may be context-dependent, as the ideology of a culture’s religious traditions may shape how one responds to the difficulties of living (contrast Safdar et al.’s findings for religiosity, this volume). Given the

varying content of different religious ideologies, it will be important to examine the variable functioning of religiosity in different cultural traditions depending on the predicted outcome in question.

Conclusion

And take upon's the mystery of things,
As if we were God's spies.

Shakespeare, *King Lear*, Act 5, Scene 3

When we set out to explore beliefs cross-culturally in the early 1990s, we wanted as scientists to clarify our own beliefs about beliefs—what were the dimensions of a person's beliefs about the world, the axioms for living each person extracts from the ongoing experiment of life? How did these beliefs vary across persons within a culture and across cultural groups? Were these axiom dimensions merely reflections of other well-established psychological constructs, or could they complement such constructs in predicting psychological outcomes of interest? What types of outcomes were predicted by which types of axioms? Did they predict psychological responses singly, in additive, or in interactive ways? And, if so, why?

Our research has taken us into the very core of human functioning—thinking and the need for all humans to think, so as to survive and flourish. The content of those thoughts we develop about the world constitutes the individual's axiom profile, a general cognitive channel by which we engage with our world, transform it and are in turn transformed by our ongoing exchanges with our proximal environments across our life spans. So the circle of living rolls on, leaving its traces in the content of our beliefs.

We and our numerous collaborators have just begun examining the psychological specifics of the five axiom dimensions, the individual's profile of beliefs about the world. It is clear that individual profiles differ and that these differences make a difference. Knowledge about a person's present worldview is a key approach to not only understanding that person and his or her socialization history but also to predicting how that person will engage the world and the consequences attending those acts of engagement. Beliefs matter!

So, we have come to believe in beliefs, just as people everywhere and throughout history have come to believe in their beliefs—through their confrontation with reality whose outcomes are assessed through their systems for reality-testing. We will continue to search for the scientific truths about beliefs, just as the persons we psychologists study will continue to search for their personal truths, these truths contending with their worlds, with these outcomes further shaping their worldviews.

Man is the measure of all things:
of things which are, that they are
and of things which are not, that they are not.

Protagoras, Greek Philosopher, 490–420 B.C.

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